

# THE PEZA-REGISTERED METALS INDUSTRY PLAYERS: A Business Landscape Analysis

## A 2022 Study

ISBN 978-621-95807-8-6



Department of Science and Technology  
Metals Industry Research and Development Center

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Published by the  
Metals Industry Research and Development Center  
Department of Science and Technology  
Bicutan, Taguig City 1631  
Republic of the Philippines

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The Cover: Aerial view of the Mold Technology Support Center (MTSC) of the DOST-MIRDC. The MTSC training facility in General Trias, Cavite was launched in November 2022. The picture of “economic zones across industries” was sourced from the PEZA website.

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## Acknowledgment

The industry study team would like to sincerely thank the following:

- managers and employees of PEZA, as well as all the respondent PEZA-registered companies in Cavite that work in the metals industry,
- Mr. Virgilio Lanzuela, Mr. Jimmy Chan, Mr. Tony Mangubat and Mr. Reynaldo dela Cruz, officers of the Metalworking Industries Association of the Philippines (MIAP), Philippine Die and Mold Association, Inc. (PDMA), and Philippine Welding Society (PWS) respectively, who shared important information that was used to package the industry study report;
- DOST-Cavite, the Provincial Agriculture Office of Cavite, the Department of Information and Communication Technology (DICT), and all DOST regional offices,
- all industry dialogue participants: Mr. Rommel T. Baldevarona of Sanno Philippines Manufacturing Corporation; Mr. Jose P. Lisama of Cavite State University; Mr. Arnel del Monte of Metalmate Precision Technology Corporation; and Mr. Jimmy Chan of M2 Fabrication Incorporated, and the focus group discussion participants namely: Ms. Ria Rose Soriano and Ms. Lani Tejeresas of Tom's Manufacturing Corporation; and Mr. Julius A. Ontang of P TON Corporation, whose inputs served to add information crucial to the completion of the study, and
- the DOST-MIRDC management for support and guidance.

May this industry study be instrumental in leading the Center in its pursuit of bringing relevant services to the metals, engineering, and allied industries.

The Industry Study Team



## Introduction

The Philippines is largely regarded as a newly industrialized nation. According to the International Monetary Fund's estimates for 2021, the Philippines' economy ranks 32nd in the world by nominal gross domestic product (GDP), the 12th largest in Asia, and the third largest in the ASEAN. By 2050, the Philippine economy is expected to rank 19th globally and fourth in Asia [1].

The manufacturing industry is seen as one of the drivers of the country's economic growth. Manufacturing production in the Philippines grew by 11.0% year-over-year in August 2022, after a 10.6% gain in the prior month. This was the 16th straight month of expansion in manufacturing output and the steepest pace since March 2022, amid further improvement in the COVID-19 situation.

In 2022, output growth mainly accelerated compared to 2021 in transport equipment (31.0% vs 22.2%), computer, electronic (15.5% vs 10.7%), fabricated metal products (34.4% vs 25.7%), and other manufacturing products (23.6% vs 11%) [2].

Statistics show that the industry sector's performance increased from 28.42 to 28.89 percent as compared to the agricultural sector from 10.19 to 10.07 percent [3].

## Cavite as an Economic Driver

Cavite is the second largest contributor to the economy nationwide, with 17 percent of total output in 2018. It is the province with the fastest average annual production growth rate in the region from 2010 to 2015, at 3.37 percent. Cavite's industrial sector alone dominates the region's production, accounting for 62 percent of the gross regional domestic product (GRDP).

The fact that Cavite has consistently ranked among the top 10 most competitive provinces in the nation since 2015 is another plus. This is based on the Cities and Municipalities Competitiveness Index from the Department of Trade and Industry, which ranks provinces, cities, and municipalities based on their infrastructure, resilience, and economic dynamism [4].

In the CALABARZON region, ecozones were able to export (in millions) \$27,796.60 in 2020, a 0.55% increase compared to 2019.

Among the 61 economic zones in CALABARZON with a total of 2,022 locator companies, Cavite has the second highest number of locator companies with 764 totaling 164,588 employees next to Laguna [5].

## PEZA as a Contributor to Economic Development

A common development policy instrument for many developing nations is the creation of special economic zones. The Philippine Economic Zone Authority (PEZA) continues to be one of the main contributors to the country's economic development.

Ecozones are the drivers for economic recovery and

growth in every region. They help create jobs for the locals and complete the supply needs in the area.

Continuing to be the country's top investment promotion agency (IPA), PEZA contributed 64% of the Philippines' exports of commodities and goods, 80% of export services to markets all over the world,

and about 17% of the country's GDP in 2020.

For 27 years now, PEZA manages 416 economic zones which host 3,557 locator companies. These companies contribute a total of P4.036 trillion in investments and \$933.835 billion in exports and employ 1.7 million workers from 1995 to 2021 [6].

## Metals Industry Players in Cavite Registered in PEZA

In Cavite, metalworking and manufacturing companies including those inside industrial parks and economic zones are crucial parts of the supply chains of businesses ranging from rice, coffee, and pineapple production, to pro-

cessing and manufacturing of garments, textiles, semiconductors, engineering, food, and pharmaceuticals.

PEZA-registered metals industry players, mostly medium- and large-sized enterprises,

significantly boost the Philippine economy by serving different industries such as automotive, semiconductor, industrial machinery, electric home appliances, house goods construction, and manufacturing.

## DOST-MIRDC's 2022 Industry Study

As the sole government agency that directly supports the metals and engineering industries, the DOST-MIRDC is constantly seeking opportunities to address the needs of

the metals industry by conducting industry studies.

The Center focused its attention on the metals industry players registered with PEZA. Continuing to pursue its mis-

sion of serving the metals, engineering, and allied industries, the Center recognizes the significant contribution of PEZA and its locators to economy-building.

## Objectives

PEZA-located metals industry players, therefore, are among the key drivers to PEZA's crucial support to the nation. Through this study, the Center aims to:

1. Identify products, services, and machines used;
2. Describe the market served and how PEZA-registered metals industry players strengthen customer rela-

- tionships; and
3. Discuss the present status of the business to address threats and determine trends and opportunities.

## Methodology

The industry study took off with an industry dialogue, an activity that helped the team identify the needed respondents and the institutions that can provide relevant support to this endeavor. Data gathering for this industry study was implemented using the triangulation technique. The survey among PEZA locators

in Cavite whose businesses are under the metals, engineering, and allied industries was implemented using a survey questionnaire specially designed with Michael Porter's Five Forces and the Business Model Canvas as the guiding frameworks. With assistance from PEZA and its zone managers, the industry

study team disseminated the questionnaires and retrieved the filled-out forms online. Further, the team conducted interviews with three industry experts. A focus group discussion at the end of the survey properly helped in the verification of information.

## Scope and Limitation

This report is divided into several parts: (1) Capabilities – here we present the respondents' products and services,

machines and metalworking processes, and local and foreign markets served; (2) Maintaining Market Relevance

– here we showed the respondent companies' pursuit of realizing their value proposition which may be focused



on lowering cost, speeding up service, or offering the flexibility of product design to serve customer requirements. Also discussed in this section of the report are the relationships the respondent companies make and nurture with key business partners; and (3)

Present Business Landscape – where information regarding revenue streams, investment priorities, influences of technology advancements, and challenges encountered that affect business health are discussed.

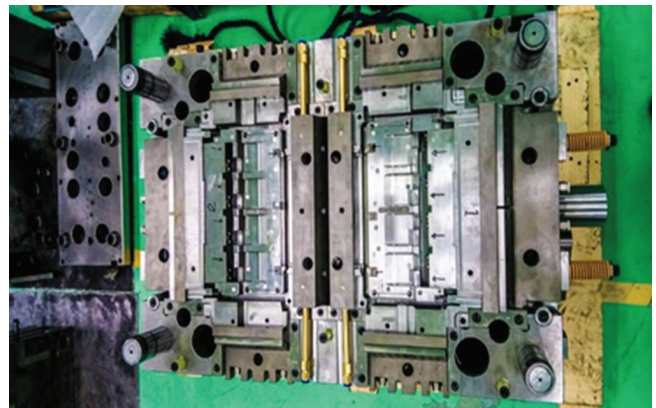
Interaction between the industry team and the survey respondents for the entire duration of the study was purely online.

## I. Capabilities

The capabilities of PEZA-registered companies involved in the metals industry are manifested through the products they manufacture (Fig. 1). They are engaged in the manufacture and export of a wide variety of products such as chassis, alternators, gears, metal mainframes, automobile motors, die, and mold, injected plastic parts, and other metal fabricated products for automotive, semiconductor, home appliances, aerospace, and metalworking industry. Products are produced through metalworking processes such as machining, metal stamping, electroplating, welding, die and mold, and mold repair which are some of the identified key services offered.



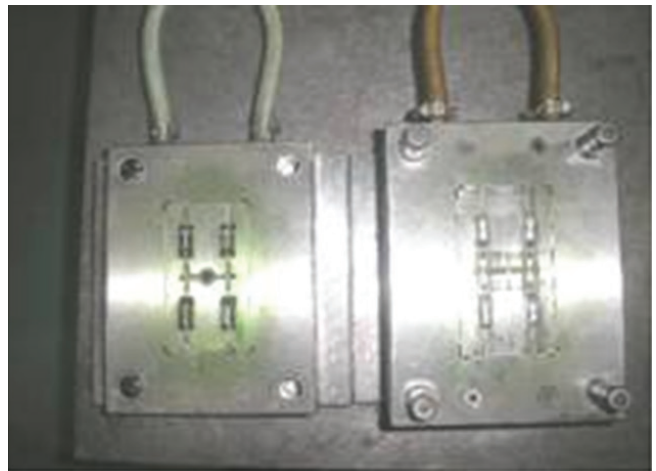
Source: autoindustriya.com



Source: bigphilippines.com



Source: car throttle.com



Source: <https://2356-ph.all.biz/sample-of-fabricated-mold>

**Figure 1.** Various Metal Products Produced by PEZA-Registered Metals Industry Players in Cavite: (clockwise from top left) chassis, 12 teeth gears, helical gears, and Denso/alternator,)



ment: CNC lathe and milling machines, welding machines, press machines, and surface grinders, alongside the invest-

ment in machinery, conducting preventive maintenance of equipment is another investment that positively drives the

capabilities of the respondent companies to serve and satisfy the market.

## II. Maintaining Market Relevance

Companies in the metals industry offer products and services that cut across various sectors. Figure 3 shows that most of the company respondents are serving the requirements of a niche market – these are the companies that had a keen business sense to identify a particular product and invest in honing expertise in creating this product, satisfying the client, and ensuring that their products cope with the dynamic requirements of the market.

Companies serving the requirements of a segmented market, mass market, and diversified market remain relevant as they persist to fulfill the demands of client industries such as the automotive, semiconductor/electronics, and construction, to name a few.

Market relevance is manifested in being able to compete in the arena of lowering costs, as in the case of 35% of the respondents (Fig. 4). Companies whose value proposition is geared toward lowering costs are manufacturing products such as tight frames, tin alloy ingots, shafts, TC cutters, PCD cutters, routers, and other various metal products that are manufactured locally and compete in the global market.

In the same manner that PEZA-registered companies address the needs of customers in various industries, they maintain robust business relationships with partners such as suppliers of raw materials, machines, and maintenance services.

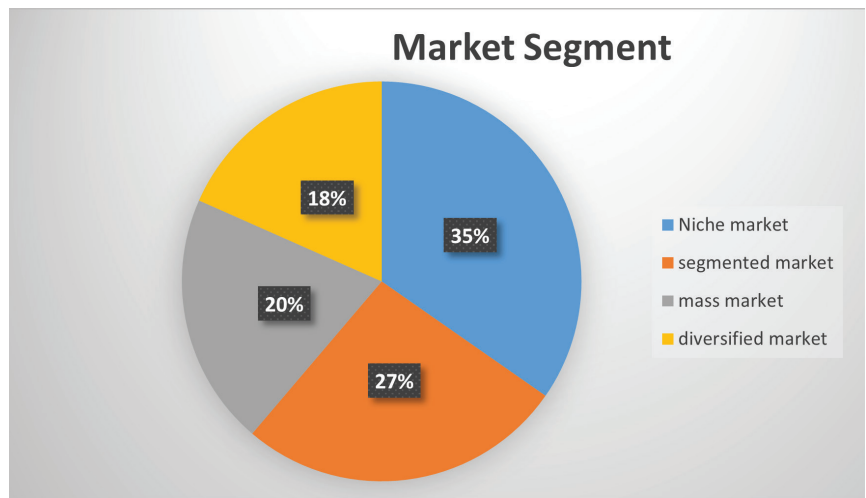


Figure 3. Classification of market segment served by the PEZA-registered companies

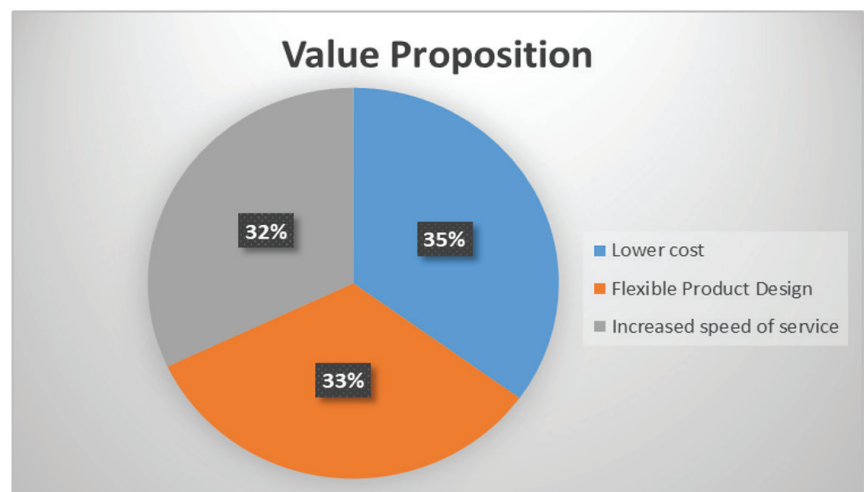


Figure 4. The value proposition of the PEZA-registered metals industry players in Cavite



Suppliers of equipment and maintenance services are the most typical partners for businesses whose value proposition involves the speed of service. These locators are producing die and molds, jigs and fixtures, and other fabricated metal products. They ensure that their types of machinery are well-maintained which is a crucial element in accelerating their service. Die and mold companies are also maintaining dies and molds to improve the efficiency of the manufacturing process. Outsourcing jobs such as heat treatment and machining are also practiced achieving a more productive, efficient service, often of greater quality.

Most enterprises whose value proposition is flexible product design engage primarily with suppliers of raw materials and equipment. PEZA locators typically provide

industrial services and equipment to produce motorcycle parts like tubes, shafts, spacers, bolts, blocks, and pins. With the rapid manufacturing of a variety of motorcycle models, each with its unique features, a variety of parts with varying designs based on the model and brand of motorbike have emerged. With the rising adoption of cutting-edge technologies, motorcycles have grown more sophisticated and fashionable in terms of safety and convenience.

To adhere to the requirements established by the clients, the metal players in PEZA-Cavite are continuously improving their products and services through feedback communicated directly with their mother companies mostly in Japan. They maintain and strengthen their relationship with their customers by ensuring

that all concerns are communicated through e-mails, phone calls, and other social media platforms. Through this, they fully understand the sentiments of their customers which lead them to improve their products and services at a very competitive price and determine various opportunities.

They build upon giving the most pleasant customer experience by providing after-sales support to resolve issues experienced by the customers. They ensure the availability of spare parts that may be traded in for defective products, as well as free help desk and technical assistance, extended warranties, and a flexible payment scheme. They place a greater emphasis on the satisfaction of their customers.

### III. Present Business Landscapes

#### Sources of Revenue

Most of the respondents serve clients in the industry sector, who are specifically engaged in the automotive industry, while several respondents serve clients in the services sector.

They get revenue from sales generated primarily through their exclusive tie-up with companies that patronize their products and services. One of the respondents, which caters to clients in the transportation and logistics industry, gains revenue from

the lease or rental of their assets. Some companies make income through consultancy and after-sales support such as repair and maintenance of the molds to ensure that the mass production of high-precision parts is still attained.

#### Investment Priorities

Some of the metal industry players (27%) in PEZA-Cavite invest in a production facility that is fully equipped

with modern machinery and technology to deliver value to the clients. The investment in a fully-equipped facility

also means that the companies do not only invest in upgrading machinery but in enhancing the skills of their

human resources as well. This investment is a strategy that enables companies to address customers' requirements on cost, quality, and delivery.

Some companies participate in mergers and acquisitions that increase their productivity by obtaining additional skills and new knowledge of the business with good management and process system.

Business for some (22%) of the respondents gets a boost from their being ISO certified. Their ISO certification is a strategy that strengthens the companies' process stan-

dardization. Although this is not a requirement of the PEZA among its locators, ISO-certified companies establish their name in the market and take part in the competition in the global market with consistently high-quality products and services.

The current landscape among metals industry players in PEZA in Cavite is characterized by close linkages with marketing channels such as brokers, distributors, and wholesalers. One of the components of a company's value chain, specifically its primary activities, is marketing and sales. These

marketing channels aid the metals industry players reach out to their target market.

Metals industry players registered with PEZA in Cavite have collaborative relationships with providers of heat treatment, mold-making, and machining services. Business in the metals industry is also supported by partners that provide training services, such as the Technical Education and Skills Development Authority (TESDA) and the Department of Science and Technology – Metals Industry Research and Development Center (DOST-MIRDC).

## How Technology Influences Business

The continuous spread of the Industry 4.0 phenomenon is a result of the ever-dynamic advancement in technology. Amid this background, robotics and automated systems have become mainstream in the operations of manufacturing companies worldwide.

Over the next years, companies in the metals industry in PEZA Cavite will either continue or opt to start using new technology to expand their product lines and add new processing equipment to meet the changing needs of their customers.

Lean manufacturing, production monitoring, planning systems, and continuous improvement are some of the techniques typically employed to upgrade products and services. Adopting these technologies aids in improving product accuracy owing to standardized methods [9]. Moreover, integrating new technologies into production processes increases productivity and profit [10].

As is observed in companies all over the world, growing interest in integrating advanced manufacturing and

production systems in the framework of Industry 4.0 propels companies toward creating and taking advantage of new opportunities for widening market reach. The technological advancements (sensors, automation, robotics, and artificial intelligence) are seen as drivers for PEZA manufacturers in Cavite to increase their ability to produce a diverse range of products to meet the industry's evolving demands.

## Challenges

Present business landscapes for metals industry players are challenged by the emergence of potential substitutes for the products they manufacture. Market demand, which is as

dynamic as the emergence of technologies, becomes more sophisticated as customers require value for their money. With market demand as the most important driver

of change, businesses rely on fast-paced technology improvements and innovations to remain in the competition.

Considering environmental scanning, industry players are aware of potential threats to the business. For instance, metal products manufactured by PEZA locators such as those used as parts and components of motorcycles, scooters, and other auto parts are on the verge of being replaced by plastic products. Automotive industries are now using new materials to make their vehicles lighter. According to more recent research, by 2020, the use of plastics in automobiles will increase by 75%, implying that the average car will contain 350kg of plastic, up from 200kg in 2014 [8]. The overall health of the busi-

ness for PEZA locators is also affected by the lack of workers to hire and the high attrition rate of skilled labor caused by brain drain. There are also very few universities that can produce graduates with basic metalworking knowledge. Companies such as the survey respondents in PEZA hire technical-vocational graduates who have the necessary skills to ensure smooth operations. Faced with the issue of the lack of skilled workers to hire, the respondents also hire high school graduates and even those with no experience.

The revenue made by the metals industry players reg-

istered in PEZA in Cavite suffers a big dent when investment that goes into human resource development is taken into consideration. When an applicant with no experience, or a high school graduate with very minimal industry exposure is hired, the cost of training to enhance the employees' skills from basic to intermediate or advanced is shouldered by the company. Undeniably, providing extensive training is a major investment by the industry to ensure that their human resources are capable of driving business operations to optimum levels.

## Recommendation

The industry study focused on the metals industry players registered with PEZA in Cavite. The overall perspective regarding the respondent companies' capabilities, market relevance, business landscapes, and foresight in technology and business paved the way for the formulation of the following recommendations intended for the PEZA-registered companies under the metals and engineering industry.

### On Capabilities:

- Continue to provide in-house training or look for external providers of training on CNC machining, CNC machine operator training program, machining center programming, setup, and operation, and CNC machinist training.
  - Establish linkages with institutions offering technical and vocational education to ensure that graduates possess industry-required competencies;
  - Form partnerships with a wide range of stakeholders, such as industry associations and universities that have collaborations with government agencies to prepare students for careers in metalworking;
  - Seek the assistance and support services of the training providers such as the Department of Science and Technology – Metals Industry Research and Development Center (MIRDC). The Mold Technology Support Center (MTSC), the newest facility of the MIRDC, will be instrumental in beef-
- ing up the competency of the human resources of the respondent companies. The MTSC houses all equipment that will demonstrate and encourage more local companies especially the PEZA die and mold companies in Cavite to avail of its services. This will boost their skills and technical know-how through various training programs on mold making, facility sharing, and the conduct of research and development.



## On Maintaining Market Relevance:

The respondent companies can deliver their value proposition with support from linkages with their partners and stakeholders. Collaborations should be strengthened and more efforts made to continue to provide good service and quality products. The following suggestions may be considered:

- Conduct environmental scanning of emerging technologies that disrupt operations and business landscapes;
- Consider carefully how new technologies such as collaborative robots, automation, artificial intelligence, additive manufacturing, and digitalization, among others, can be effectively introduced into the operations;
- Study advanced technologies that the company can adopt to open new business opportunities;
- Adopt online digital strategies, as the digital economy has proven to be indispensable and will continue to expand;
- Invest more in the conduct of research and development using the cutting-edge technologies housed in the MTSC facility to close the gaps in their production processes.

## On Present Business Landscapes:

- Implement ICT-enabled business by using modern tools and online platforms to interact with customers more easily, create innovative products and services, and streamline customer service, interaction, and sales processes;

- Widen linkages with other local MSMEs that specialize in heat treatment, mold fabrication, and machining;
- Link up with local metals industry players especially those that offer heat treatment, mold-making, and machining services since

these are the production processes most outsourced by the survey respondents. Some enterprises specialize in these said technologies and may be tapped as key partners.

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## Annex

Industry Served	Products
<b>Automobile Semiconductor</b>	<ul style="list-style-type: none"> <li>• Plastic tray</li> <li>• Injected Plastic Parts</li> <li>• Painted and Printed Plastic Parts</li> <li>• Assembled Parts</li> <li>• Aluminum Parts</li> <li>• Spring</li> </ul>
<b>Telecommunications</b>	<ul style="list-style-type: none"> <li>• Tin (Plating)</li> <li>• Nickel (Plating)</li> <li>• Zinc (Plating)</li> <li>• Spacer</li> <li>• Tin Ingot</li> <li>• Silver Shots</li> <li>• Tin Alloy Ingot</li> <li>• Cold rolled steel</li> <li>• Hot rolled steel</li> <li>• Electrogalvanized steel</li> <li>• ICT fixture</li> <li>• FCT Fixture</li> </ul>

*List of Products (continued)*

Industry Served	Products
House Goods	<ul style="list-style-type: none"> <li>• Various metal parts</li> </ul>
Electric Home Appliance	<ul style="list-style-type: none"> <li>• Reflow oven parts</li> <li>• Shaft</li> <li>• Cold rolled steel</li> <li>• Hot rolled steel</li> <li>• Electrogalvanized steel</li> <li>• Plastic electronic components</li> <li>• Metal racks</li> <li>• Panel</li> <li>• Cover</li> </ul>
Industrial Machinery	<ul style="list-style-type: none"> <li>• Plastic Mold</li> <li>• Automation Jig components and tool parts</li> <li>• TC Cutters</li> <li>• PCD Cutters</li> <li>• Routers</li> <li>• Jigs and fixtures</li> <li>• Metal based product</li> <li>• Paper based product</li> </ul>
Automotive/Transportation	<ul style="list-style-type: none"> <li>• Plastic Injected parts</li> <li>• Metal mainframe</li> <li>• Chassis</li> <li>• Gear</li> <li>• Shaft</li> <li>• Assembly Gear</li> <li>• Collar insert</li> <li>• Fabricated metal</li> <li>• Bolts</li> <li>• Nuts</li> <li>• Washers</li> <li>• Rivets</li> <li>• Cold rolled steel</li> <li>• Hot rolled steel electrogalvanized steel</li> </ul>
Semiconductor/ Electronics	<ul style="list-style-type: none"> <li>• Heat sink</li> <li>• Plastic grounding cords</li> <li>• Wrist bands</li> <li>• Safety heel ground</li> <li>• Mold and dies</li> <li>• Tin (Plating)</li> <li>• Nickel (Plating)</li> <li>• Zinc (Plating)</li> <li>• Spacer</li> <li>• Tin Ingot</li> <li>• Silver Shots</li> <li>• Tin Alloy Ingot</li> <li>• Cold rolled steel</li> <li>• Hot rolled steel</li> <li>• Electrogalvanized steel</li> <li>• ICT fixture</li> <li>• FCT Fixture</li> <li>• Plastic electronic components</li> <li>• IC Surface Mount Packages</li> <li>• ASIC</li> <li>• ASSP Probe</li> </ul>

Industry Served	Products
<b>Construction</b>	<ul style="list-style-type: none"> <li>• Block</li> <li>• Boss</li> <li>• Roof attachment parts</li> </ul>
<b>Metalworking</b>	<ul style="list-style-type: none"> <li>• Metal</li> <li>• Fabricated metal</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• Horse Shoe</li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>• Die cast parts</li> <li>• Tin (Plating)</li> <li>• Nickel (Plating)</li> <li>• Zinc (Plating)</li> <li>• Spacer</li> <li>• Tin Ingot</li> <li>• Silver Shots</li> <li>• Tin Alloy Ingot</li> <li>• Various metal parts</li> <li>• Tight frame</li> <li>• Cut pipes</li> <li>• Soft contact lens</li> </ul>

### Services

- Die and Mold Fabrication
- Metal Fabrication
- Electroplating
- Metal Stamping
- Painting
- Metal Assembly
- Repair of Mold and Parts
- Warehousing
- Plastic Injection
- Lathing Process
- Grinding
- Firing Furnace
- Cutting
- Technical Support
- Machining
- Tool and Die Fabrication
- Machinery Steel Structure Fabrication
- Electro-Mechanical Installation
- PCB Designing
- ASSP Probe Test
- Analog Test





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