



WELCOME TO



For the last 35 years, spanning two generations, Sigma group has always endeavored to keep abreast with the Technology and provide an optimum solution to our customers. Continuing with this tradition, the group has embarked upon putting a new state-of-art foundry that specializes in producing High-quality Gray Iron and Ductile Iron castings with machine shop in Padavla, Rajkot. The first phase, comprising 2,61300 Sq/Ft Land and 1,30000 Sq/Ft. built up space would be fully operational by April, 2024.

The plant is equipped with fully automatic moulding lines of Sinto-Japan, Arpa-450&900, moulding lines are supported by Auto Controlled Sand Plants with effective Sand cooling, Handling systems & High-Speed Intensive Mixers. Sand Mix Controls (SMCs) are ensuring the delivery of good quality Sand with Auto Process Control & Testing Facilities. Melting department is equipped with Dual track medium frequency induction furnaces by auto raw material charging and alloy addition system. Modern & advance machine shop with setup of CNC, VMC and VTL machines, operating in a true Lean and energy efficient environment.

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We will make Sigma Melleable the most trusted casting manufacturing company and will strive to be the professional team of choice offering engineering and technical service focused on customer satisfaction, we will provide quality products on time every time delivery and competitive price, which will exceed our customer expectation.

To be one of the top global engineering conglomerates providing innovative material solutions for a greener and sustainable planet.

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Our mission is to forge a sustainable future in metal casting, prioritizing eco-friendly practices in our foundry operations. We are dedicated to minimizing our environmental impact through innovative, responsible manufacturing processes, and continuous improvement in waste management, energy efficiency, and resource conservation.

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QUALITY POLICY

Sigma Melleable Pvt Ltd is committed to manufacturing extremely high-quality, cutting-edge products in an accurate and on time every time manner for our existing and growing customer base. We satisfy all customer requirements and continually improve our processes to enhance customer loyalty and satisfaction.

Our journey to excellence

Foundational Years

Company established, started manufacturing Grey Iron & Ductile Iron castings.

Achieved ISO 9001:2015 certification from TUV SUD Germany, installed CNC machines.

Installed VTL for larger size turning, added pallet changer VMC.

Established new casting and machining facilities under one roof.

Installed ultrasonic washing machine, ERP (i-cast), and additional CNC & VMC machines.

1989

2015

2017

2023

2025

2007

2016

2020

2024

2026

Expanded with a new unit at Vavdi Location, Rajkot.

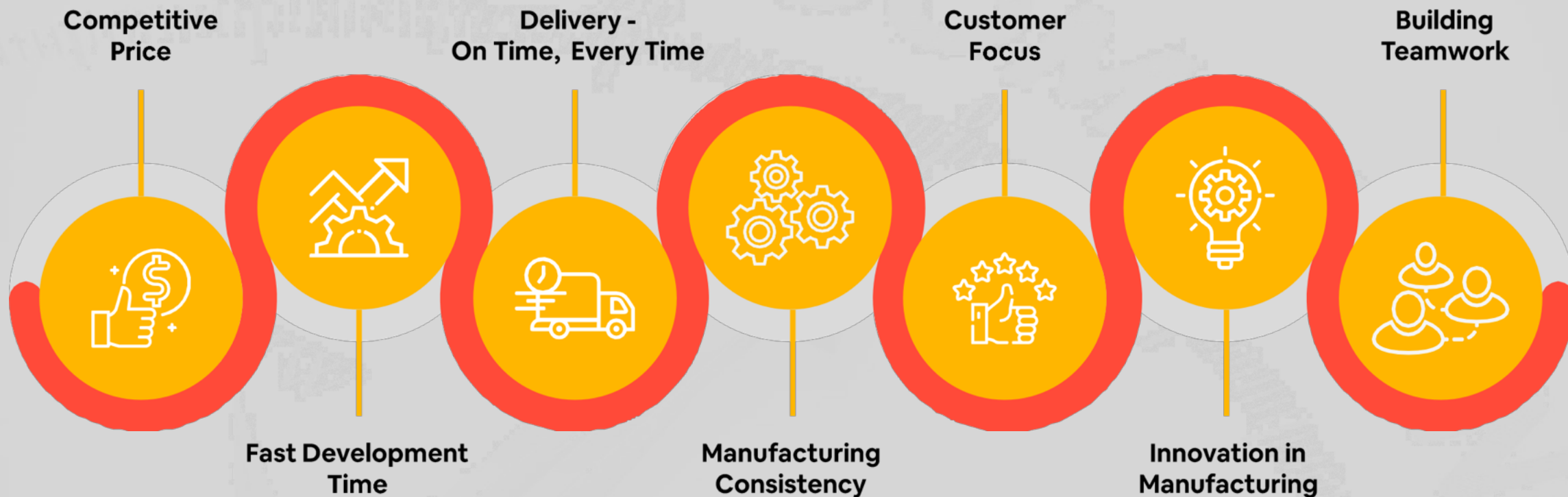
Installed sand testing facilities, added VMC in the machine shop.

Developed a new machine shop for motor bodies, added CNC machines.

Installed CMM machine and roughness tester.

Target & Goal
Targeting PED and IBR certification, planning to add more CNC, VMC, and HMC machines.

OUR FOCUS AREAS



Industries We Serve

As a major supplier to
OEM & Tier-1 Suppliers,
we manufacture
machined castings for
a wide range of
applications:



Motors



Pumps



Gear Box



Pipe Fitting



Air Compressor



Three Wheeler



Tractor & Farm Equipment



Earth Moving



Motor Parts



Pump's Spares



Gearbox Spares



Pipe Fitting Parts



Air Compressor Parts



Three Wheeler Parts



Tractor & Farm Equipment Parts



Earth Movers Parts

Spare parts can also be manufactured as per client's samples or drawings.

INFRASTRUCTURE

Facility Features

- ✓ 261300 Square feet land with 130000 Square feet manufacturing space with high bays and with modern lighting
- ✓ Training Hall
- ✓ Canteen with staff quarters
- ✓ Multiple conference room

People

- ✓ 225 Highly Skilled and qualified Employees
- ✓ Professional management team
- ✓ Productive, motivated crafts people

Foundry Facilities

- ✓ Fully Automatic Sand Plant Foundry FBON III Sinto Flask less Automatic Moulding line
- ✓ Arpa 450 & 900 Moulding Machines
- ✓ 8 Fully Automatic cold core shooting machines
- ✓ Dual Track Induction Furnace 500 kg/hr – 2 Nos. & 750 kg/hr – 2 Nos.
- ✓ Metal Pouring on Bi-rail ladle lifting crane
- ✓ Laboratory for sand
- ✓ Metrology for finished product
- ✓ Shotblasting & Fettling Facility
- ✓ Modern Painting Facility

Engineering

Through our design process. We identify how to make the job easier, less expensive and more efficient. Design resides, 3D modeling, solidification analysis and rapid prototyping are just a few of the service we offer.

Pattern Making

All the patterns are manufactured with the help of Z - Cast simulation software.

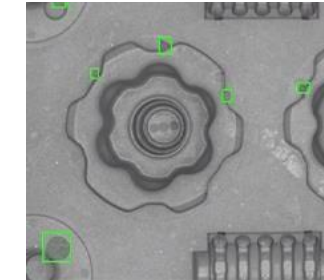
3D Software is used by engineers to assist them to visualize, analyze, and communicate the designs intent prior to an actual prototype or sample being created.

- ✓ Our Sand Plant is equipped with sand multi-controller (SMC) which regulates and monitors the process in a sand mixture to ensure the characteristics of the prepared molding sand remain within the constant range and thus improve the mold quality and give the better surface finish of the casting
- ✓ Capacity 55 MT/Hr and storage capacity of 200 MT
- ✓ Moisture and additives added by three load cells that monitors and controls optimum max.
- ✓ Our sand plant is equipped with a robust backup generator. This ensures that the plant remains operational for up to 4 hours in the event of power failure or during maintenance.
- ✓ We have incorporated ZSM Pull cord system in all belt conveyors for safety purpose.

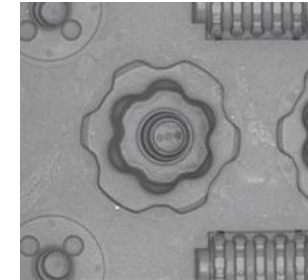


SINTO JAPAN FBO N - III Features

- ✓ Single station design
- ✓ Average max mold rate of 100 Mold/hr with core casting and 130 mold/hr without core casting
- ✓ Vertically no spill sand or strike - off sand
- ✓ Mold to Mold consistency
- ✓ Programmable hydraulic squeeze
- ✓ Quick pattern change futures 5 minutes only
- ✓ Box size 510mmx660mmx120-200mm depth
- ✓ Ability to draw the pattern within with minimum draft angle
- ✓ Mold strength sensor
- ✓ Mold drop detector
- ✓ Uniform Hardness throughout the mold
- ✓ Total rejections both in foundry and machine shop may be well within 1-2%
- ✓ The casting obtained are more uniform in size , shape and more accurate than those obtain by hand molding.
- ✓ Hand molding requires skilled craft men but in HPML semi skilled workers can run the machine
- ✓ Less surface and inside casting defects
- ✓ Less Man power , Long lasting tool life and fast production rate against hand molding
- ✓ Ability to create thin walls , good surface finish and dimensional
- ✓ Tolerances accuracy against hand molding



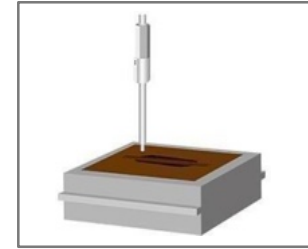
Mold Drop



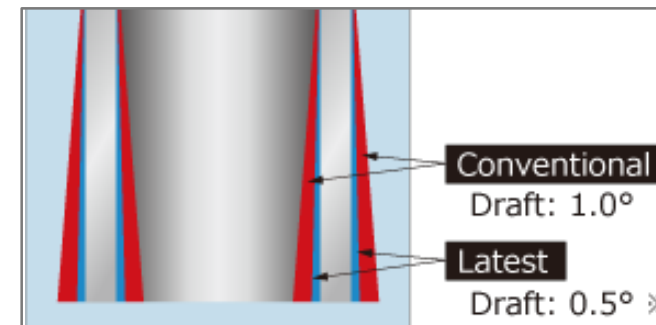
No Mold Drop



Near Net Shape



Mold Strength Sensor



Core Competency in Machining by providing 0.5° Draft Angle

- ✓ Pneumatic timer for jolt and squeeze.
- ✓ BOX SIZE (ARPA 450) :- 600X450X200 (IN MM)
600X750X200
- ✓ BOX SIZE (ARPA 900) :- 800X1000X300 (IN MM)
- ✓ Rapid Change Over.
- ✓ Hydro pneumatic swing in and out for fast productivity.
- ✓ Adjustable pins to suit different box sizes.
- ✓ Pneumatic timer for jolt and squeeze.
- ✓ Low friction guide system for jerk free mold stripping.





- ✓ MAKE WELL Fully automatic cold shooter (25 Lt, 15 Lt, 10 Lt, 5 Lt Capacity) with blowing time varying between 30 Second and 2 minutes with one ton per hour sand mixture
- ✓ The core shooter can accommodate horizontally jointed core using amine as a curing agent with resin addition approximately 6500 cores per day
- ✓ Fully automatic operation by use of PLC with HMI
- ✓ In Built gas generator with air as a carrier medium
- ✓ Automatic Hydraulic core ejection
- ✓ Proper vaporization of amine ensured by using hot dry air



Melting Capabilities

- ✓ 30 MT Per Day Melting Capacity
- ✓ Dual track induction furnace 500 kg/hr - 2 Nos. & 750 kg/hr – 2 Nos.
- ✓ Tight chemistry control with complete traceability
- ✓ Customized software and control for efficient energy management
- ✓ Temperature monitor with data logger
- ✓ Emergency load response program and synchronous reverse program participant to reduce stress on the Power Grid



MELTING TEST FACILITY







Production Capabilities

- ✓ We can accommodate all varieties with small as well as high volume of parts
- ✓ Sizes: 1.0 kg to 180 kg Single Piece
- ✓ Capacity of 30000 MT per year
- ✓ Consistency in physical & meteorological Properties
- ✓ Design review, 3D Modeling and simulation capabilities

Metal We Cast

Grey Iron

India : FG100, FG150, FG200 & 250, FG300 & 350

USA : NO 25, NO 30, NO 35, NO 40, NO 45, NO 50

Ductile Iron

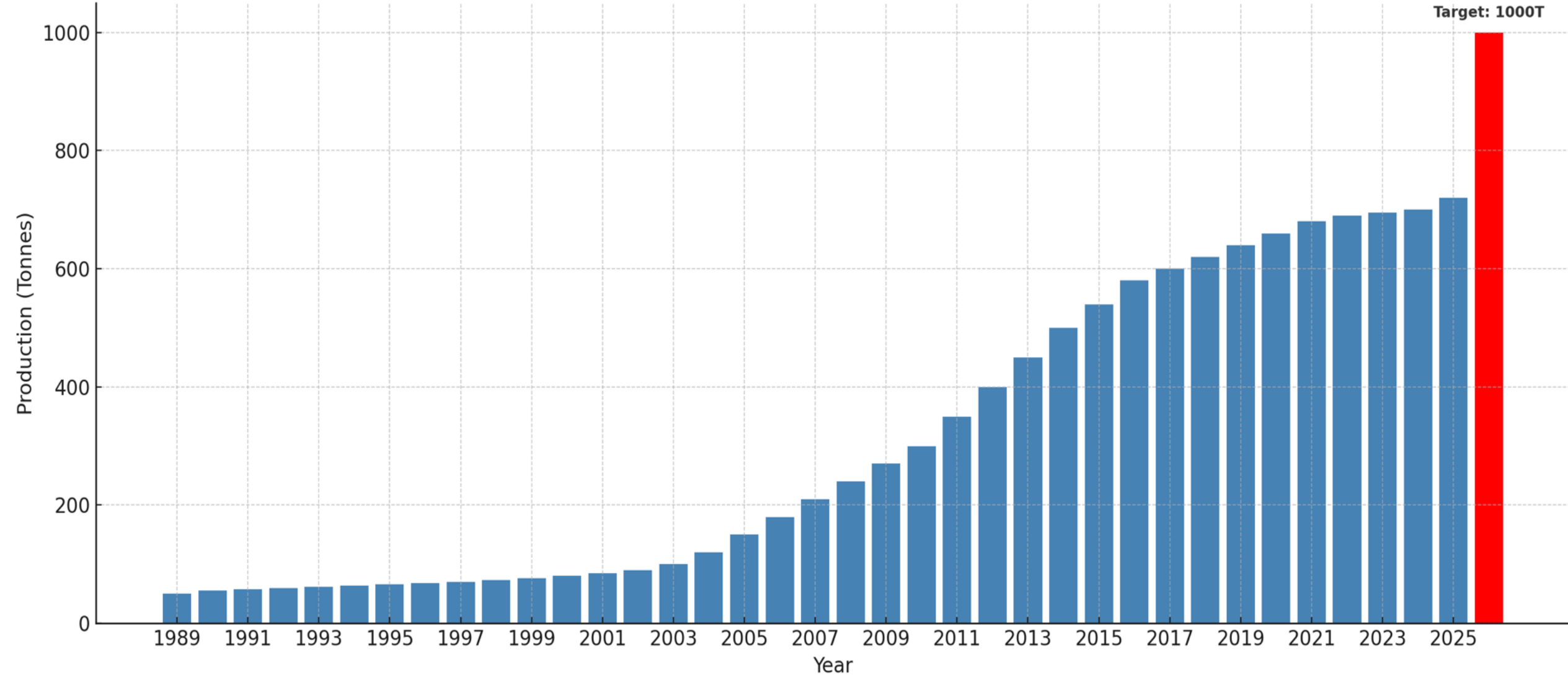
India : SG370, SG400, SG500, SG600, SG700

USA : 60-40-18, 65-45-12, 80-55-06, 100-70-03, 120-90-02

Silicon Molybdenum Cast Iron (SiMo)



Casting Production Capacity (1989 - 2026)





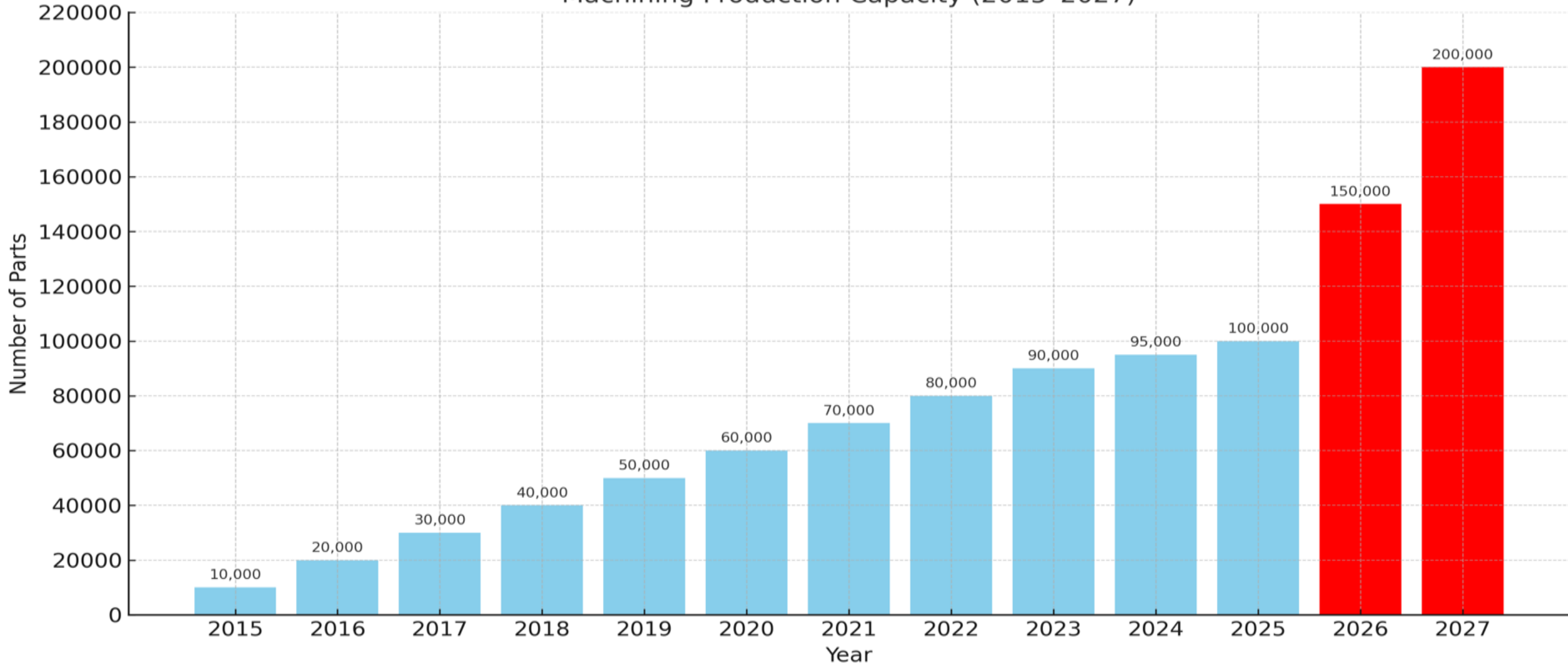
Value Added Machine Shop

- ✓ CNC Turning Center: Ace Micrometric & LMW (CNC)
- ✓ Vertical Turning Lathe: Ace Micrometric (VTL)
- ✓ Vertical Machining Center Ace Micrometric (VMC)
- ✓ Turning Conventional Lathe
- ✓ Radial Drill Machine
- ✓ Pillar Drill Machine
- ✓ Tapping Machine
- ✓ Ultrasonic Cleaning Machine
- ✓ Laser Marking Machine
- ✓ Dot Pin Marking Machine



Machine Name	Qty	Make / Model	Capacity / Specification
CNC Machine	4	ACE Micrometic	X- 250mm / Z- 300mm to X- 580mm / Z- 500mm
CNC Machine	4	LMW	X- 400mm / Z- 300mm
VTL Machine	1	ACE Micrometic	X- 265mm / Z- 700mm
VMC Machine	1	ACE Micrometic	X- 800mm /Y-510mm/ Z- 500mm
VMC Machine (Dual Pallet)	1	ACE Micrometic	X- 800mm /Y-450mm/ Z- 500mm
Pillar Drill	10	Decent Engg.	0mm to 25mm
Pillar Drill	1	Decent Engg.	25mm to 50mm
Radial Drill	1	Decent Engg.	0mm to 25mm
Lathe Machine	10	Trilok/DMT	9-feet – 1Nos, 7-feet – 4Nos, 5-feet-4Nos
Tapping Drill	2	Gayatri Industries	4mm to 12mm
Dot Pin Marking Machine	1	Emerson	600mmx600mm
Laser Marking Machine	1	Emerson	750mmx750mm
Ultrasonic Cleaning Machine	1	Meltronics	900mm/600mm/600mm

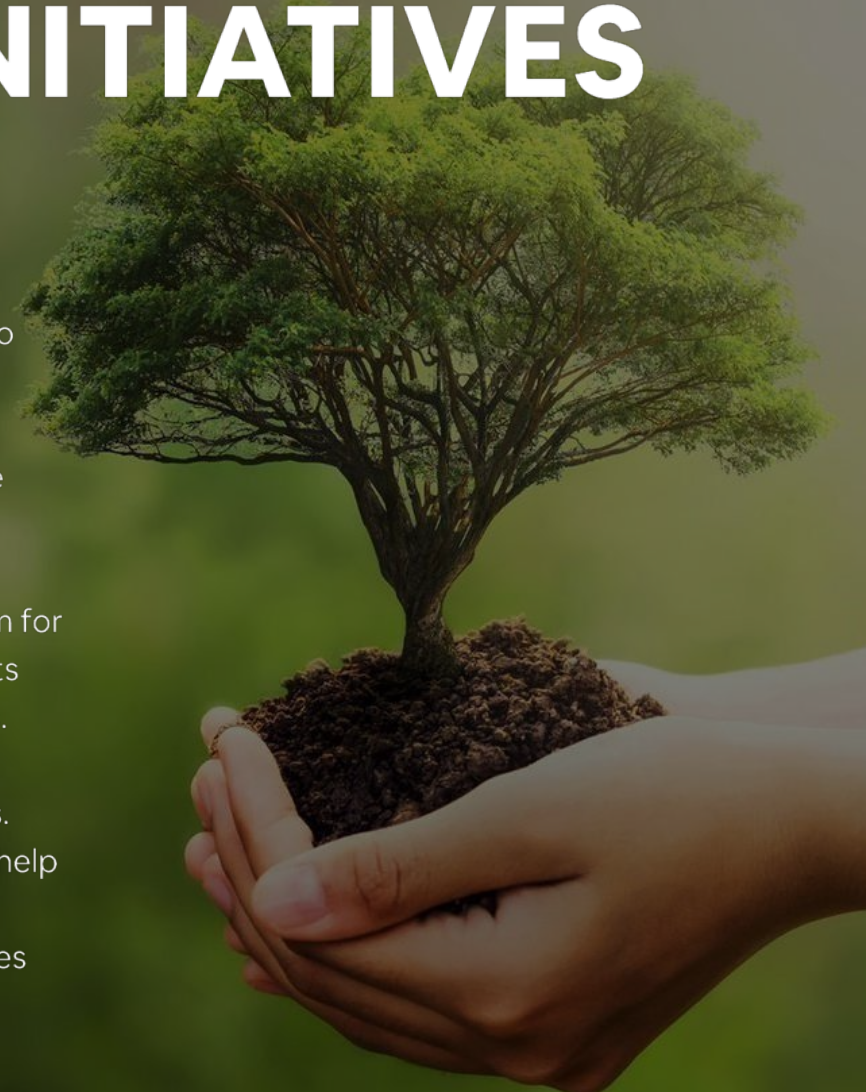
Machining Production Capacity (2015-2027)



PROPOSED OUR GREEN INITIATIVES

Sigma Melleable is committed to environmental initiatives and ensures eco-friendly casting operations through various additions and improvements.

- ✓ All the processes of combustion are consolidated in to dust collectors and combustion are filtered prior to discharge through HEPA filters.
- ✓ On-site operations are ninety nine percent below our regular limit for the emissions of carbon dioxide.
- ✓ Adopting the customized energy solutions, software for electrical demand control and demand response efforts, This initiatives has considerably reduced our power consumption.
- ✓ Implementing the use of causticized lignite in our sand system to reduce our emissions.
- ✓ Rain water Harvesting system: We have an underground water retention basin along with Filtration system for rain water. This captured water can be used for variety of purposes such as watering plants, flushing toilets and cleaning purposes. Implementing a system like this can reduce consumption on public water supplies.
- ✓ Motion sensors for lighting: Fitting motion sensors in our office, and plant ensures lights are used when needed. This can help to reduce unnecessary energy consumption in the work place and save energy bills.
- ✓ Water saving plumbing fixtures: By using low flow toilets, water saving taps and pressure reducing valves help minimize water consumption in our plant.
- ✓ Trees remove harmful pollutants from the air and act as our natural air filter. We have planted 1200 varieties of trees at our plant.



Sigma Melleable is alive to the corporate social responsibility to its employees and society. We try to do our little bit for those affected by natural calamities, provide cures to the needy and helping society to leave better legacies for the new generation.

Following are some CSR activities:

- ✓ Blood donation camp
- ✓ Distribution of textbooks and notebooks to needy children
- ✓ Admission fees and tuition fees for children and students
- ✓ Charity to cancer hospital and other charitable trust
- ✓ Tree foundation donation
- ✓ Noon meal schemes for children
- ✓ Noon meals and evening meals to the government hospital for needy families
- ✓ Free and fair medical treatment expenses for very poor families
- ✓ Free medicine to needy persons
- ✓ Positive treatment of all employees including favorable pay benefits in excess of mandated minimum. This includes fair employment consideration for all individuals regardless of personal differences
- ✓ Donate to disaster relief charities and NGOs. Support communities affected by floods, cyclones, earthquakes and fire.





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