



## CLIENT CASE STUDY



**Global leader in precision die casting of aluminum and aluminum alloys for automobile components**

**CASTWEL**  
for the automobile components

## About Castwel Auto Parts Pvt Ltd

Castwel Autoparts (UMW group) was established in 1985 and they are one of the leading manufacturer for High Pressure Die Casting, Gravity Die Casting and Hi-precision Machining Components. They have a high reputation for Quality, Cost and Delivery parameters.

## Project Summary

**Project: Aluminum Foundry, Pressure Die Casting Shop, Fettling Shop, Machining Shop, Tool Room, Office, Utilities and Services.**  
**Location of the Project: SIDCO Industrial Estate, Chennai.**  
**Land Area: 2.50 Acres**  
**Built-up Area: 8473 Sq.Mtr – 10400.00 sq.Mtr**



### Challenges

Specified zero discharge of water, acoustic treatment, removal of odour, dust and smoke and saving resources.



### Solution

Followed research-based discovery process. design optimisation, value engineering and world class factory design



### Impact

Increased production through-put, saved huge amount of investments. Met the challenges 100%

# ABOUT THE PROJECT

"It was very important that the designers understand the process thoroughly and build the project around the process. Value engineering was required at every step to optimise the space and process"  
Our ability to deal with complex engineering problems has been tested to the hilt in almost all fronts during our working with this very demanding project".

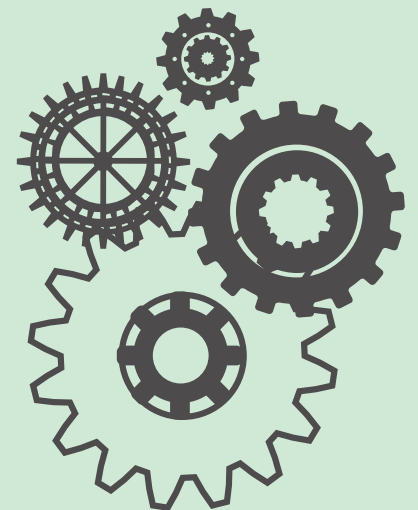
The project requirements brief provided by the client placed the availability of land as 2.50 Acres which is 30% of that required for a comparable project. The project was to accommodate an aluminium foundry, pressure die-casting shop, fettling shop, machine shop, tool room and also shall function as the head quarters of the company in India. The factory and office shall be of world class construction. The project requirements also specified zero discharge of water, recycling of treated water, acoustic treatment, removal of odour, dust and smoke, well ventilated process area among other things, considering the proximity of residential areas to the plant.

## SOLUTION DELIVERY

The project was designed through a **research-based discovery** process. This unique method established a direct relationship between the functional requirements and the creative process. This process also meant active participation of the client in our design process, making choices as the project developed.

The result of the efforts was that the project met all laid down pre-project requirements, preserving the allocated budget. The foundry was installed with capacity for future expansion. The pressure die-casting shop can accommodate as many as 15 machines against the original requirements of 10 machines.

The CNC machines were installed in multiple levels in the building with each floor plate holding as many as 46 machines. Space was created for installation of machines for future. The plant today has the capacity to install as many as 138 machines against the original plan to create space for 72 Machines. The plant is equipped with all required utilities and services which are expandable to match the production capacity including captive tool room for the development and repair of tools & die...



## BUSINESS IMPACT

The plant is truly zero discharge with all process and non process water being treated and recycled. Exhaust air is treated to avoid any odour to the surroundings and solid waste is managed in a scientific way. The office space, interiors and the facade of the building makes it look like a IT park. The building stands tall in the Industrial area, facing the highway with its own identity. Many people who travel on the highway never will come to know that the building houses a red category manufacturing plant.

**“ZERO DISCHARGE WITH ALL PROCESS AND NON PROCESS WATER BEING TREATED AND RECYCLED.”**



## ABOUT BESTEN

**Besten is a 25 years old design house specializing Industrial designs, Industrial factory layouts and production plants.**

**As design specialist for Industrial architecture, our industrial design solutions cover green energy design, lean manufacturing and robotic productions.**

**Besten provides innovative design solutions to both green field and brown field industrial projects for optimised design, save cost and increased production capacity.**

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