

# Industrial Visit Report

## *Caterpillar India Private Limited*

### V sem MECH A



**Date:** 22.07.2025

**Participants:** B.Tech Mechanical, V Semester A Section – 49 students

**Accompanied by:** Faculty members Dr. G. Rajesh and Dr. A. Arockia Julias

**Location:** Caterpillar India Private Limited

Melnallathur Post, Thiruvallur. Tamil Nadu, Chennai 602 004.

# Introduction

As part of our academic program, we had the opportunity to visit **Caterpillar India Pvt. Ltd.**, located in Thiruvallur, on **[22/07/2025]**. The visit was organized for students of the **[B. tech, Mechanical Engineering]**, with the aim of giving us firsthand exposure to industrial practices and helping us understand how engineering concepts are applied in real-world settings.

## Objectives of the Visit

- To get an overview of the manufacturing and assembly processes involved in heavy equipment production.
- To observe how industrial operations are managed efficiently at a large scale.
- To understand the role of safety protocols and quality control in manufacturing.
- To relate classroom learning with actual industry practices.

## About the Company

Caterpillar Inc. is a global leader in construction and mining equipment and is widely known for its innovative technologies and manufacturing excellence. The Thiruvallur facility is one of Caterpillar's major plants in India, producing off-highway trucks and components used in mining and construction applications. The plant is equipped with modern machinery and follows strict international standards in production and safety.



## Outcomes of this industrial visit

- Gained exposure to advanced machines and automation like CNC milling which is related to my course “MED 3103 Automation in Manufacturing”.
- Acquired the knowledge on jigs and fixtures that is related to my course “MEDX 04 Design of jigs and fixtures”.
- Learned about industrial safety and quality control practices.
- Saw how classroom concepts are applied in the industry.
- Developed better awareness of industrial work culture and professionalism.

## Overview of the Visit

Our visit included a detailed walkthrough of several departments such as:

- **Fabrication and Welding (MIG, TIG and Cobot)**
- **Machining and Component Assembly**
- **Painting and Surface Finishing**
- **Testing and Quality Assurance**

At each section, professionals from the company explained the workflows, machines involved, and the importance of precision and safety in every stage. We also got to understand how large components come together to form Caterpillar's signature off-highway trucks.

## Acknowledgment

We sincerely thank **Caterpillar India Pvt. Ltd., Thiruvallur**, for hosting us and providing an insightful tour of their facility. We are grateful to the team for their time, warm hospitality, and the valuable knowledge shared during the visit. A special note of thanks is extended to **Dr. A.S. Selvakumar**, Head of the Department of Mechanical Engineering, for his valuable guidance and support. We also sincerely acknowledge the efforts of our dedicated faculty coordinators, **Dr. A. Arockia Julias** and **Dr. G. Rajesh**, whose excellent planning and mentorship ensured that we gained maximum educational benefit from this industrial visit.