NEW HORIZON
COLLEGE OF ENGINEERING
New Horizon Knowledge Park, Ring Road, Marathalli
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA
DEPARTMENT OF MECHANICAL ENGINEERING

Industrial Visit Report

Company Name: Rail Wheel Factory

Date of Visit: 08/11/2025
Location: Rail Wheel Factory, Yalahanka. Bengaluru 560064
Department: Mechanical Engineering
Attendees: 7th Semester Students
Accompanied by: Dr. Gopal
Duration: 02:00 PM - 04:00 PM

1. **Introduction**

As part of our academic curriculum, the students of 4th year Mechanical Engineering visited the Rail Wheel Factory (RWF) located at Yelahanka, Bengaluru, Karnataka on 8th November 2025. The purpose of the industrial visit was to gain practical exposure and understanding of the manufacturing processes involved in the production of train wheels and axles, which are essential components of the Indian Railways. The visit provided us an opportunity to observe real-world applications of mechanical engineering principles such as casting, forging, machining, and assembly operations.

2. **About Rail Wheel Factory (RWF)**

The Rail Wheel Factory (RWF), a unit of Indian Railways, is one of the major production units located in Yelahanka, Bengaluru. It specializes in the manufacturing of cast steel wheels, axles, and wheelsets used for railway wagons, coaches, and locomotives. RWF is renowned for its high production capacity, quality assurance, and use of advanced technologies such as Computer Numerical Control (CNC) machines and automated forging systems. The factory follows strict quality control procedures and is certified under ISO standards.

3. **Observations and Learning**

During our visit, we were guided through various departments of the factory, where we observed the following key processes:

• **Wheel Manufacturing Process** – The manufacturing of railway wheels begins with melting steel in an electric arc furnace. The molten metal is poured into moulds to form wheel blanks which are then

heat treated and machined for dimensional accuracy.

• **Axle Manufacturing Process** – Axles are produced using advanced forging techniques followed by precision machining and ultrasonic testing to ensure flaw-free structure and mechanical strength.

• **Wheelset Assembly** – The wheel and axle are assembled together using hydraulic presses under strict interference fit conditions. Proper alignment and balancing are ensured before dispatch.

• **Advanced Machining Operations** – We witnessed the use of CNC lathes, milling machines, and automated inspection systems that enhance production accuracy and efficiency.

• **Casting and Forging Techniques** – The factory employs both casting and forging technologies to achieve optimal mechanical properties required for railway components.

4. **Conclusion**

The industrial visit to Rail Wheel Factory was highly informative and beneficial for all the students. It provided practical insights into large-scale manufacturing processes, industrial safety standards, and quality control techniques. The visit helped bridge the gap between theoretical knowledge gained in classrooms and its real-world industrial applications. Such experiences are invaluable in preparing students for professional careers in mechanical and manufacturing engineering.

5. **Photographs from the Visit**

Figure 1: Captured at Rail Wheel Factory, Yelahanka, Bengaluru.

Figure 2: Captured at Rail Wheel Factory, Yelahanka, Bengaluru.

Industrial Visit Poster