

Industrial Visit Report Mahindra & Mahindra Ltd. – Kandivali Plant

Location: Kandivali, Mumbai, Maharashtra

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About Mahindra & Mahindra Ltd.

Mahindra & Mahindra Ltd. is one of India's largest automobile manufacturing companies and a flagship company of the Mahindra Group. Established in 1945 and headquartered in Mumbai, the company has developed a strong reputation in the automotive, agricultural equipment, and commercial vehicle industries.

Mahindra manufactures a wide range of vehicles including SUVs, pickup trucks, tractors, and light commercial vehicles. The company operates several manufacturing facilities across India, contributing significantly to the country's automobile sector.

The Kandivali plant in Mumbai is one of the oldest and most important facilities of Mahindra & Mahindra. Established in 1964, the plant is often referred to as the **mother plant of Mahindra's automotive sector**. It plays a key role in manufacturing components and assembling vehicles, particularly pickup trucks.

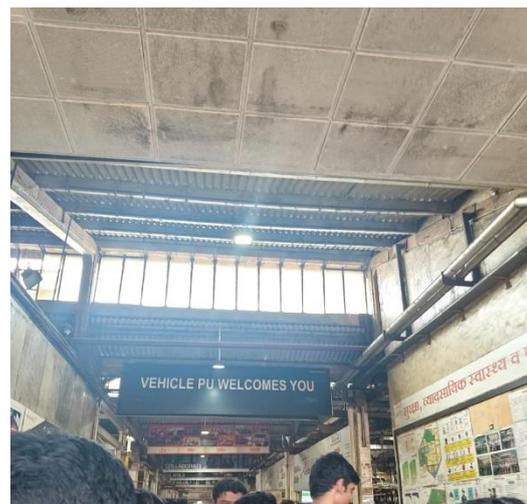
Overview of the Kandivali Plant

The Kandivali manufacturing facility functions as an integrated automobile manufacturing plant where several stages of vehicle production are carried out. The plant manufactures important automotive components and assembles vehicles that are widely used for commercial and logistics purposes.

Key features of the plant include:

- One of Mahindra's oldest automotive manufacturing facilities
- Integrated manufacturing system
- Production of pickup trucks and automotive components
- Supply of components to other Mahindra plants across India

The plant follows a **Product Unit Concept**, where different departments are responsible for manufacturing specific parts that are later assembled into a complete vehicle.



Products Manufactured

One of the key product lines manufactured at the Kandivali plant is the **Mahindra Bolero Pick-Up Range**. These vehicles are widely used across different industries because of their durability and high load-carrying capacity.

The Bolero pickup trucks are commonly used for:

- Agricultural transport
- Dairy and food distribution
- Logistics and delivery operations
- Construction material transportation

These vehicles are designed with a strong ladder-frame chassis, powerful diesel engines, and high payload capacity, making them suitable for heavy-duty commercial usage.

Manufacturing Process Observed During the Visit

During the industrial visit, students were introduced to the automobile manufacturing process followed at the Kandivali plant.

Assembly Line Operations

Students observed how vehicles are assembled on the production line. Different components such as the chassis, engine, transmission system, and body panels are installed step by step in a sequential process.

The assembly line ensures:

- Efficient workflow
- High production speed
- Standardized quality across vehicles

Chassis and Structural Components

The base structure of the pickup vehicle is the chassis, which supports the entire vehicle body. The chassis is assembled with suspension systems, axles, and other mechanical components before the vehicle body is mounted.

Body Assembly

The vehicle body is assembled through welding processes where metal panels are joined together to form the cabin and outer structure of the vehicle.

Testing and Quality Checks

Before the vehicles are finalized, several quality checks and tests are conducted. These include performance checks, mechanical inspections, and emission testing to ensure the vehicles meet industry standards.

One of the testing processes observed during the visit was the **smoke test**, which checks the emission levels of vehicles to ensure compliance with environmental regulations.

Technology and Automation

Mahindra uses modern technology and automated systems in its manufacturing process to improve efficiency and maintain high-quality standards.

Important technologies used in the plant include:

- Robotic welding systems
- CNC machining centers
- Automated assembly tools
- Computerized production monitoring systems

Automation helps in maintaining precision during manufacturing and improves the overall productivity of the plant.

Safety and Training Initiatives

Safety is a critical aspect of operations at Mahindra & Mahindra. During the visit, students were informed about the company's safety practices and awareness programs.

The plant was conducting a **National Safety Day/Month campaign**, focusing on educating employees about safe working practices. The objective of the campaign is to promote a culture of safety and prevent workplace accidents.

Employees undergo regular training programs to improve their technical skills and maintain high safety standards within the manufacturing environment.



Key Learnings and Insights

The industrial visit to Mahindra & Mahindra's Kandivali plant provided valuable exposure to real-world manufacturing operations and highlighted the importance of data-driven decision-making in modern industries.

Understanding the Automobile Production Process: Students observed the complete workflow involved in the manufacturing of pickup vehicles. The assembly line demonstrated how different components such as chassis, axles, engines, and body structures are assembled sequentially to produce a finished vehicle efficiently.

Exposure to Industrial Operations: The visit helped students understand how large-scale manufacturing plants operate through coordinated departments such as component manufacturing, assembly, quality testing, and logistics. Observing the plant environment helped bridge the gap between theoretical learning and practical industrial operations.

Role of Data and Analytics in Manufacturing: During the visit, it was explained that Mahindra uses digital systems such as Drona software to generate and manage large volumes of operational data on a daily basis. The system collects information related to production output, machine performance, quality checks, and supply chain activities.

The data analytics team analyses this information to monitor plant efficiency, identify production bottlenecks, and improve operational performance. Through continuous data monitoring, management can make better decisions related to process optimization and resource utilization.

Market Research and Demand Forecasting: Analytics teams also study market trends and customer demand patterns to understand which vehicle models and configurations are most in demand. This helps the company plan production schedules more effectively and ensure that supply matches market demand.

Importance of Data-Driven Decision Making: The visit highlighted how manufacturing companies increasingly rely on analytics tools to improve productivity, reduce downtime, and enhance product quality. Data collected from machines, testing systems, and production lines helps managers take informed decisions and improve overall operational efficiency.

Managerial Motivation and Industry Insights: Students also received motivational guidance from Plant Head Mr. Tom Thomas, who shared insights about leadership, discipline, and the importance of continuous learning in the automotive industry. His session encouraged students to develop both technical knowledge and problem-solving skills required for successful careers in industry.

Tiny philosophical aside from the factory floor: A modern automobile plant produces two things simultaneously — vehicles and data. The vehicles leave the gate and enter the market. The data stays behind, feeding algorithms that quietly make the next production cycle smarter. Steel and statistics working together.

Conclusion

The industrial visit to Mahindra & Mahindra's Kandivali plant was a highly informative and enriching experience. It provided students with practical exposure to the automobile manufacturing process and allowed them to understand how large-scale industrial operations are managed.

Observing the production of pickup trucks, assembly line operations, and quality testing processes helped bridge the gap between theoretical knowledge and real-world industry practices. The interaction with industry professionals and the motivational guidance provided during the visit further enhanced the learning experience.

Overall, the visit provided valuable insights into the functioning of a leading automobile manufacturing company and highlighted the importance of efficiency, technology, and safety in modern industrial operations.

