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Date: 15/10/2025

INDUSTRIAL VISIT REPORT

2025-26

ELECTRICAL ENGINEERING DEPARTMENT

DATE	11 October 2025
DAY	Saturday
VENUE	Nimgao Ketaki Road, Loni-Deokar
COMPANIES	Sonai Eatables India Private Limited
TIME	10am Onwards
ORGANISED BY	Electrical Department
CLASSES INVOLVED	SE & TE Students
FACULTIES INVOLVED	1) Ms. Tamboli M.S. (Co-ordinator) 2) Mrs. Shelke P.D.

Introduction:

On 11th October 2025, the Electrical Engineering Department organised a **one-day** industrial visit to **Sonai Eatables India Private Limited, Loni Deokar**.

A group of 48 students, accompanied by two faculty members, actively participated in this educational visit.

The visit mainly focused on two important industrial sections:

- 1. 1 MW Solar Power Station**
- 2. PLC-SCADA Operated Oil Purification Plant**

This visit aimed to provide students with practical exposure to modern renewable energy systems and automation technologies used in large-scale industrial operations.

Objectives of the Visit

- To study the working and layout of a **1 MW grid-connected solar power plant**.
- To understand solar module arrangement, inverter operation, and power conditioning.
- To observe the role of **SCADA systems** in monitoring solar energy generation.
- To gain knowledge of **PLC-based automation** in the oil purification process.
- To understand safety practices, control logic, and real-time monitoring.
- To correlate theoretical concepts of power systems and automation with real industrial applications.

About Sonai Eatables India Pvt. Ltd.

Sonai Eatables India Pvt. Ltd. is a leading agro-based industry that integrates:

- Energy-efficient plant operation
- Renewable energy generation (1 MW Solar Plant)
- Advanced industrial automation using PLC-SCADA
- Large-scale **oil purification and processing systems**

The industry follows modern safety standards and quality control systems, making it an ideal place for technical learning.

Visit to 1 MW Solar Power Station

➤ Solar Array Setup

➤ Visit to PLC-SCADA Based Oil Purification Plant

PLC Control Panel

- PLC hardware components (CPU, I/O modules)
- Wiring and interfacing
- Analog and digital inputs/outputs
- Safety interlocks

➤ SCADA System

The SCADA interface showed:

- Real-time graphic display of the purification process
- Temperature, pressure, and flow monitoring
- Alarm systems
- Start-stop controls
- Data logging and trend analysis

➤ Oil Purification Process

Engineers demonstrated:

- Pre-filtration
- Heating section
- Moisture removal
- Final purification
- Quality parameter checking

Students observed how automation reduces manual work and increases accuracy.

Students gained:

- Practical knowledge of solar plant components and performance monitoring
- Understanding of industrial AC/DC distribution systems
- Hands-on exposure to PLC panels and SCADA screens
- Knowledge of fully automated oil purification cycles
- Awareness of industrial safety procedures
- Clear understanding of real-time control, monitoring, and automation

Students observed:

- PV modules arrangement
- Series-parallel configuration of arrays
- Fixed tilt mounting structures
- Factors affecting solar power efficiency

➤ Inverters & Power Conditioning Unit (PCU)

Engineers explained:

- DC-to-AC conversion
- MPPT technology
- Grid synchronization
- Protection mechanisms in inverters

➤ Distribution & Safety

Students learned about:

- ACDB/DCDB components
- Circuit breakers, SPDs, LA systems
- Earthing and grounding of solar plants
- Metering and energy monitoring setups

➤ SCADA Monitoring of Solar Plant

The SCADA system displayed:

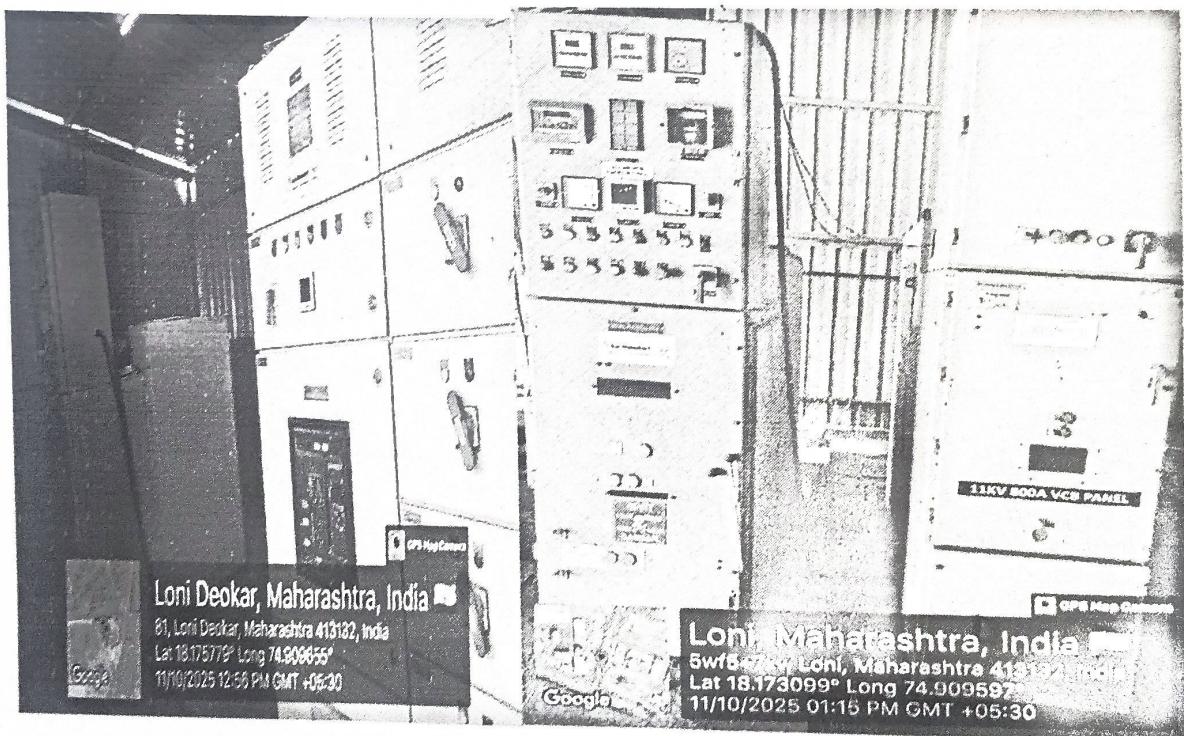
- Voltage, current, and power generation
- Module temperature
- Alerts and fault notifications
- Real-time graphical trends

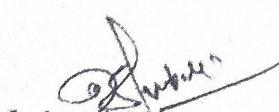
This helped students understand how remote monitoring improves plant efficiency.

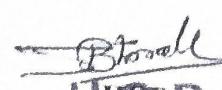
About 48 students were benefited from this visit as they got chance to discussion with Mr. Uravane K.S. The industrial visit to **Sonai Eatables India Pvt. Ltd. Loni Deokar** provided valuable practical learning to the students of the Electrical Engineering Department. The exposure to a **1 MW Solar Power Plant** and **PLC-SCADA operated Oil Purification Plant** enhanced their understanding of renewable energy systems and industrial automation.

The visit successfully bridged the gap between classroom theory and industrial practice.






Industrial Visit Coordinator


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