LAKIREDDYBALIREDDYCOLLEGEOFENGINEERING
(AutonomousStatusSincetheAcademicYear2010-11&Extendedupto2031-32)
NAACAccreditedwithCGPAof3.20on4-pointscaleat'A'Grade NIRF-2022 (Positioned in the Band of 251-300 in the Engineering Category)NIRF-2023(PositionedintheBandof101-150intheInnovationCategory)
NBAAccreditedunderTier-I(ECE,EEE,CSE,IT,ME,CIV,ASE)
RecognizedasScientificIndustrialResearchOrganization(SIRO)byDSIR
ApprovedbyAICTE,NewDelhiandAffiliatedtoJNTUK,Kakinada L.B.Reddy Nagar, Mylavaram-521230, N.T.R Dist., Andhra Pradesh, India.
Department of Electronics and Communication Engineering

REPORT ON INDUSTRIAL VISIT

Event Type:	**Industrial Visit to Cyclone Detection Radar Station, Machilipatnam (India Meteorological Department)**
Date / Duration:	12-08-2026, 13-08-2026 and 14-08-2026 (3 days;)
Place of visit:	Cyclone Detection Radar Station, Machilipatnam, Andhra Pradesh
Name of Coordinator:	Dr. K. Rani Rudrama, Associate Professor

Faculty In-charges:

- Dr. K. Rani Rudrama — Associate Professor
- Mr. Ch. Mallikarjuna Rao — Sr. Assistant Professor
- Dr. K. Ravi Kumar — Associate Professor
- Ms. T. Kalpana — Sr. Assistant Professor
- Dr. B.Y.V.N.R. Swamy — Associate Professor
- Ms. B. Rajeswari — Sr. Assistant Professor

Target Audience: B.Tech III-Year ECE students (Sections A, B & C)

Total No. of students: 145

Section-wise Visit Schedule**:**

- 12-08-2026 — Section B
- 13-08-2026 — Section C
- 14-08-2026 — Section A

Objective of the event:

- To gain practical knowledge of cyclone detection, tracking, and weather surveillance using radar technology.
- To understand how electronic and communication technologies support real-time weather observation and disaster preparedness
- To relate the concepts of Electromagnetic Waves, Antennas, transmitters, receivers, signal processing ,Radar Engineering, Communication Systems, with their practical applications.

Outcome of the Event:

- Students gained an understanding of the fundamental working principles of weather radar and radar-based atmospheric observation.
- Students related classroom concepts such as electromagnetic waves, antennas, communication systems, microwave engineering, and signal processing to practical applications.
- Students interacted with technical personnel and gained exposure to the professional working environment of a specialized radar facility.

Description / Report on Event:

The industrial visit to the Cyclone Detection Radar Station, Machilipatnam, under the India Meteorological Department (IMD), was organized by the Department of Electronics and Communication Engineering to provide III ECE students with practical exposure to radar-based weather monitoring and meteorological observation. The visit was conducted over three consecutive days,

The visit included an observation of the Transmitter Control Unit, the transmitter section equipped with a **Klystron tube**, and associated **Klystron Power Supply (KPS**) and cooling systems. The students also studied the receiver section and its various controls, understanding how transmitted signals are received and processed.

The students subsequently visited the Display Hall, where they observed the monitoring of the antenna system and learned how received radar signals are analyzed using the **Plan Position Indicator (PPI).** They were also introduced to **RAINBOW software** for detecting and determining the range of targets from the received radar signals. The visit provided valuable practical exposure to radar transmitter, receiver, antenna monitoring, signal processing, and target detection techniques.

The visit also included an interactive session with the IMD technical personnel. Students asked questions related to cyclone formation, weather conditions, radar operation, tracking methods, data interpretation, and the instruments used for meteorological observations. The interaction provided a practical perspective on the operation of specialized weather-monitoring systems and strengthened the students' understanding of the applications of Electronics and Communication Engineering in meteorology, weather monitoring, and disaster management.

Student Feedback

Mohammad Abdul Kareem

Roll No - 24761A0439

The visit to the Cyclone Detection Radar Station was a valuable learning experience. It helped me understand how radar technology is applied for weather monitoring and cyclone detection. The visit also connected our ECE concepts with practical radar and communication systems.

Mohammad Hajara Farheen

Roll No**:-** 24761A0440

This industrial visit provided useful practical exposure to weather surveillance systems. Learning about radar operation, signal transmission, reception, and processing helped me understand the importance of Electronics and Communication Engineering in meteorological applications.

Pindi Sateesh Kumar

Roll No**:-** 24761A04B7

The visit was an informative experience that gave us an opportunity to observe the practical application of radar engineering. I gained a better understanding of how radar observations support cyclone monitoring, weather forecasting, and early-warning systems.

Bandi Navya

Roll No:- 24761A0473

The industrial visit helped me relate classroom concepts such as antennas, electromagnetic waves, and communication systems to real-world applications. The interaction with the technical staff improved my understanding of how advanced electronic systems are used for continuous weather observation.

Shaik Baji

Roll No:- 24761A04I1

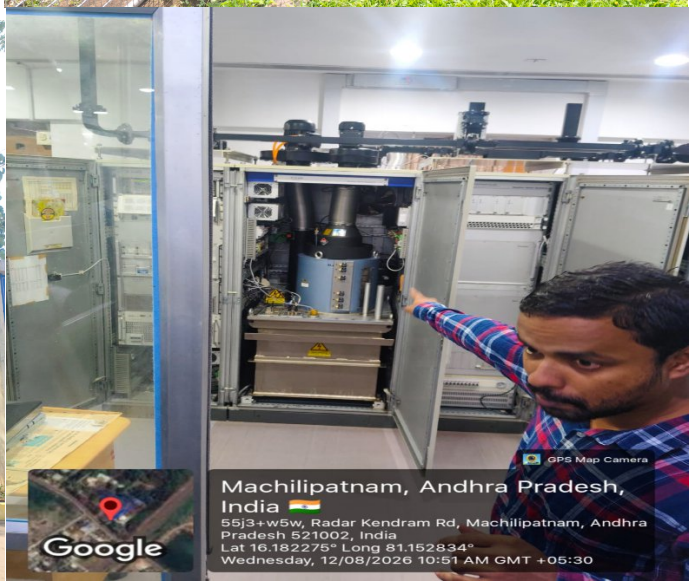
The visit to the Cyclone Detection Radar Station was an insightful experience. It gave me practical knowledge about radar-based weather monitoring and helped me understand the role of signal processing, communication, and electronic systems in cyclone detection and disaster preparedness.

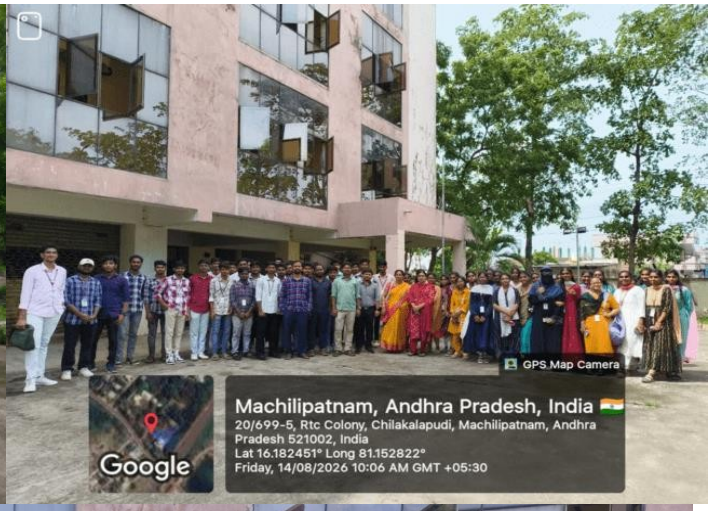
Shaik Asfiya

Roll No:- 24761A04I0

This industrial visit gave us valuable exposure to the professional working environment of a meteorological radar facility. I learned how radar technology and communication systems work together to collect and monitor atmospheric information, strengthening my understanding of practical ECE applications.

Photographs:





Tour Coordinator

Dr. K. Rani Rudrama

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Department of Electronics and Communication Engineering

REPORT ON INDUSTRIAL VISIT

Event Type:	**Industrial Visit to Efftronics Pvt. Ltd., Plot no: 4, APIIC IT Park, Mangalagiri, A.P.- 522503**
Date / Duration:	**21-08-2026**
Place of visit:	**APIIC IT Park, Mangalagiri, A.P**
Name of Coordinator:	Dr. K. Rani Rudrama, Associate Professor
Faculty In-charges:	Mr.N.Dharmachari Sr.Asst Prof, Mrs.Y.Padma Asst.Prof
Target Audience:	B.Tech III-Year ECE students
Total No. of students:	**51**

Objective of the event:

- Industrial visits provide the students with an opportunity to learn practically through interaction, working methods and employment practices
- To understand how Electronics and Communication technologies support real-time designing of electronic module
- To relate the concepts of, electronic devices and circuits, Microprocessors, transmitters, receivers, signal processing, Communication Systems, with their practical applications.

Outcome of the Event:

- Students gained an understanding of the fundamental working principles of electronic devices and signal processing.
- Students related classroom concepts such as signal processing, communication systems to practical applications.
- Students interacted with technical personnel and gained exposure to the professional working environment of a specialized micro controller facility.

Description / Report on Event:

The industrial visit to the Efftronics Pvt. Ltd., Plot no: 4, APIIC IT Park, Mangalagiri, was organized by the Department of Electronics and Communication Engineering to provide III ECE students with practical exposure to Smart Signaling Solutions, Remote Diagnostic & predictive-maintenance system allows us to monitor live status of assets remotely and helps in finding and fixing the upcoming faults.

The visit included an observation of the Metro Solutions, Passenger Info. System, Public Addressing System, Master Clock, Disaster Warning System. Data logger system aims to figure out the errors made by signal controllers, loco pilots, and misconduct of signaling systems by tracking the signaling system. Hence, helping railways avoid accidents & reducing train service detentions.

Micro Processor Based Data Logger

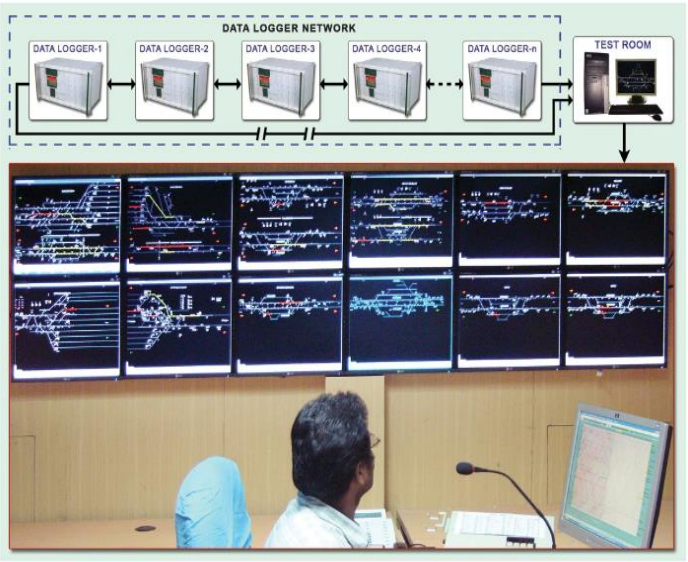
The status of various Railway Signal Control and interlocking relays are essentially to be logged in order to verify, diagnose its operation, maintenance and faults. Data logger logs the change of status of every relay connected to it. Logged data transmitted upon to the central place to generate various exceptions, reports and other information by application software.

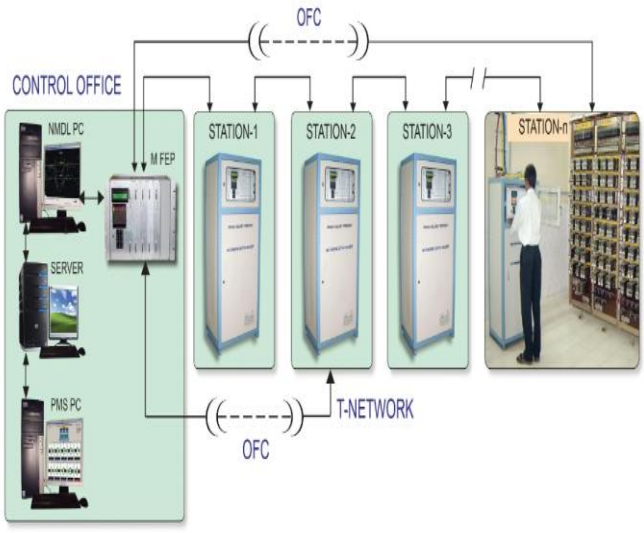
Network Management of Data Loggers (NMDL)

Front end application software at central control place and status of all the data loggers in the network. Online status of digital/analog inputs Data selective viewing, Online graphical mimic display of every station layout Auto backup on exceeding configured size of data base.

On-Line Station Simulation

Status-orientated maintenance means less maintenance effort and hence savings in human and material resources. Early recognition and clearing of faults reduce the number of delays considerably A long-term evaluation of past measurement data is possible. This data can be useful in other applications like Train Charting, Train Management System, Wrong Operation Information System, Integrated Passenger Information System etc.





Photographs:

Interaction with CEO and Founder

Dr. Rama Krishna Sir

Tour Coordinator

Dr. K. Rani Rudrama