



Loyola-ICAM College of Engineering and Technology (LICET)
Department of Electrical and Electronics Engineering
Electrical Engineers League (EEL)

Under

AICTE – Scheme for Promoting Interests, Creativity and Ethics among Students
(SPICES)

Event Report

Category: **Guest Lecture**

Title of the Event: **Electric Vehicles - Opportunities and Challenges**

Date: 21-09-2022

Venue: G01 (Auditorium)

Details of Participants

- Total No. of Participants: 152
- II EEE (Batch: 2021 – 2025) : 50
- III EEE (Batch: 2020 – 2024): 52
- IV EEE (Batch: 2019 – 2023): 50

Technological/ Academic/ Other benefits generated by conducting the event with respect to:

(a) the institution	<ul style="list-style-type: none">● Networking & building brand recognition - promote the institution and help people connect with our brand● Showcase the facilities at the institution by bringing the faculty from premium institutions
(b) the faculty	<ul style="list-style-type: none">● Strengthen faculty community and build relationships with each other● Meet like-minded individuals in person and encourage active engagement
(c) Students	<ul style="list-style-type: none">● To stay on the top of current trends, especially with technology, causing rapid change across many different industries.● Academic engagement/ engagement in scholarly activities
(d) Industry/ Society	<ul style="list-style-type: none">● Clarifying the image of the avenues of development in the near future● Contributing to make the literacy rate rise higher thereby helping build a more educated, empowered and aware society

Proceedings of the event

Category: Guest Lecture

Report on **Electric Vehicles - Opportunities and Challenges**

Date: 21-09-2022

Time: 03:00 pm to 04:30 pm

Venue: G01

Resource Person: Mr. Ganesh Nagarajan, Director & Country Head, MECWIN Technologies India Pvt. Ltd., Bangalore

Audience: II EEE (Batch: 2021 – 2025); III EEE (Batch: 2020 – 2024) & IV EEE (Batch: 2019 – 2023)

The guest speaker inculcated interest among the participants by presenting the motivation for the transition towards Electric Vehicles (EV). He then introduced the different types of EV and its unique features. He also listed the manufacturers as the days of the Internal Combustion Engine (ICE)-powered vehicles seem to be coming to an end. He also mentioned that even if this is not a sudden end, it surely has to transform to churn out more electric vehicles to stay in the market. By quoting the press releases, he stated that India aims to become a global EV hub in the electric vehicle market with several major automakers and EV start-ups working extensively on electric vehicles, the penetration of BEVs has increased significantly in the last five years. However, this increase still amounts to less than 1 percent of the sales. Hence the potential for growth remains immense. While the industry remains nascent, a company has to overcome several obstacles to dominate the market. He then listed a few challenges faced at the EV industry and gave an insight to the participants on how to build their profile so as to serve as potential solution providers to EV industry in the future. He motivated to students to take up courses through certified training providers and online learning platforms, if they would like to get placed in EV industry.

The listed challenges in India to adopt EV as quoted by the resource person are: Rang anxiety among customers (worried about the vehicle's capability to reach the destination before the battery dies out and the absence of charging infrastructure); Consumer Protection (Lack of skilled people in EV maintenance); High initial cost; Scarce Battery Technology (India relies heavily on Chinese and Korean manufacturers); Lack of products and so on.

He also listed a few business opportunities in India. They are – Establishing EV fleet; EV leasing; Public charging Stations; Swapping Stations; Battery recycling Business; Grid energy storage modules; EV service and maintenance; Battery pack and cell manufacturing; Solar integrated EV charging and EV Training services. He also enumerated the central government policies for EV in India – National Electric Mobility Mission Plan 2020 (NEMMP): Launched in 2013 by the Department of Heavy Industry (DHI) and state government policies for EV in India.

The resource person finally concluded by highlighting the theoretical subjects that would help the students to pursue their carrier in the EV industry and opportunities waiting for the budding engineers. The students found the session to be very useful.

Relevant Courses in the current semester

Electrical Machines – I

Electrical Machines – II

Special Electrical Machines

Relevant Program Outcomes

- PO5 – Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- PO6 – The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7 – Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and the need for sustainable development.
- PO8 – Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO12 – Life-long learning: Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Feedback

