Hope Foundation's

Finolex Academy of Management & Technology, Ratnagiri,

Department of Mechanical Engineering

SAEINDIA Webinar on "Designing Efficient Electric Motors with COMSOL Multiphysics

The SAEINDIA Free Webinar on "Designing Efficient Electric Motors with COMSOL Multiphysics" was conducted on 19 August 2026 from 4:00 p.m. to 5:00 p.m. (IST) at C 1/06 (Seminar Hall), FAMT, Ratnagiri.

The Department of Mechanical Engineering, FAMT, Ratnagiri, organised the webinar under the coordination of Prof. A. S. Yekane, Prof. S. S. Malusare, and Prof. V. S. Bagade for TE Mechanical Engineering students. A total of 16 students attended the webinar.

Objectives:

The webinar aimed to provide students with exposure to the application of COMSOL Multiphysics in the design, analysis, and optimisation of efficient electric motors. The activity also introduced students to multidisciplinary engineering analysis involving electromagnetic, thermal, structural, and vibroacoustic aspects.

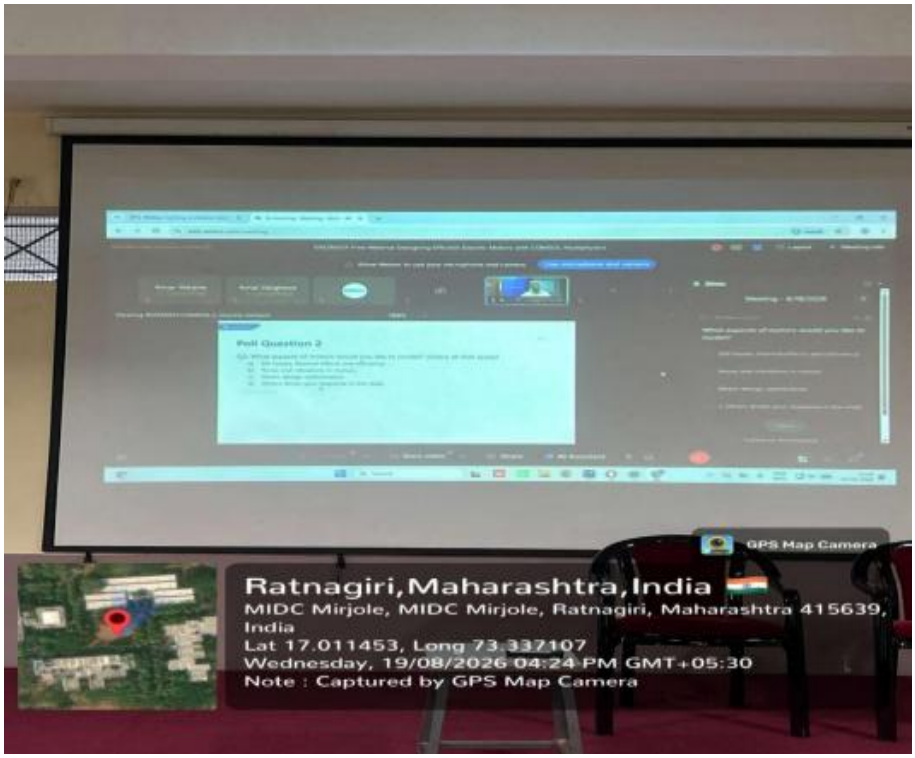
Topics Covered

The following major topics were covered during the webinar:

1. Modelling of radial and axial flux electrical machines
2. Permanent magnet, switched reluctance, and induction machines
3. Analysis of nonlinear magnetic effects, including hysteresis
4. Temperature-dependent material properties and heat transfer
5. Multiphysics analysis including stress and vibroacoustic analysis
6. Optimization of electric motor designs through practical examples
7. Outcome of the Activity

The webinar helped students to:

1. Understand the fundamentals of efficient electric motor design.
2. Gain awareness of different types of electrical machines.
3. Understand the importance of electromagnetic and thermal analysis in motor design.
4. Learn about the application of Multiphysics simulation tools such as COMSOL.
5. Appreciate the role of simulation and optimization in developing efficient engineering systems.
6. Develop awareness of multidisciplinary approaches used in modern mechanical and electrical engineering applications.



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Students for SAE Webinar on "Designing Efficient Electric Motors with COMSOL Multiphysics"

Attendee students for the SAE Webinar on “Designing Efficient Electric Motors with COMSOL Multiphysics”