

Department of Mechatronics Engineering

1. About the Department:

The Department of Mechatronics Engineering at KPRIET, founded in 2022, delivers an industry-aligned B.E. program emphasizing robotics, automation, control systems, and sensor technologies. Students gain hands-on experience through labs, industry projects, and internships with leading companies, preparing them for real-world applications. With state-of-the-art facilities, the department focuses on autonomous systems, embedded systems, and mechatronic design. Expert faculty bridge academia and industry through research, fostering a dynamic learning environment that equips students for technology-driven careers.

1. Industry Collaboration:

The Department of Mechatronics Engineering at KPRIET is closely associated with four industries through Memorandum of Understanding (MoUs) and 40+ industry relations that foster impactful collaborations. These partnerships connect students with leading companies, providing invaluable exposure to cutting-edge technologies, hands-on training, and research opportunities, ensuring our students are industry-ready with the skills and knowledge demanded by today's global market.

- ❖ ABB Global Industries and Service Ltd., Bengaluru
- ❖ Faraday Ozone Products Private Ltd., Coimbatore
- ❖ Ozotec Automobile Private Ltd., Coimbatore
- ❖ Maya Greens Services Private Ltd., Coimbatore

Thrust Areas:

Robotics:

- ❖ Mobile Robotics
- ❖ RoS
- ❖ Cobot applications and
- ❖ Industry Robotics application development.

Hybrid and Electric Vehicle:

- Institute of the Motor Industry (IMI), UK Certification Program
- R&D Hybrid and EV Powertrain
- Vehicle Body Painting
- Wheel Alignment and Balancing

2. Facilities Available for Industry Collaboration

List the state-of-the-art facilities and laboratories available within the institution.

1. Centre of Excellence for Robotics and Automation in association with Lucas-Nuelle Germany
2. Centre of Excellence for Hybrid and Electric Vehicle in association with Lucas-Nuelle Germany and Institute of the Motor Industry, UK
3. Unmanned Ariel Vehicle Technology Laboratory
4. Industrial Sensing, Control and Automation Laboratory in association with ECI Systems
5. Mechatronics System Design Lab in association with MathWorks
6. Smart Home and Building Automation lab in association with Schneider Electric

3. Consultancy Services

Centre of Excellence for Robotics and Automation

- ❖ Sensitivity Range Measurement for New Materials
- ❖ Robotics Application Development using Testing Stations

Centre of Excellence for Hybrid and Electric Vehicle:

- Simulation and Analysis of Automotive Systems
- Hybrid Engine Testing Bench

4. Testing Services

Centre of Excellence for Robotics and Automation.

- Sensitivity Range Test for New Materials
- Robotics Application Testing using Testing Stations

Centre of Excellence for Hybrid and Electric Vehicle:

- Hybrid Engine Testing Bench
- Wheel alignment and Balancing

5. Executive Development Programs

Centre of Excellence for Hybrid and Electric Vehicle:

- IMI International Level 1 Award in Electric/Hybrid Vehicle Awareness
 - Duration: Two Weeks
- IMI International Level 2.1 Award in Electric/Hybrid Vehicle Hazard Management for emergency and Recovery Personnel
 - Duration: One Week
- IMI International Level 2.2 Award in Electric/Hybrid Vehicle Routine Maintenance Activity
 - Duration: One Week
- Training on Wheel Alignment and Balancing
- Training on Vehicle body preparation and painting

6. Research and Development Collaborations

- ❖ **Research Focus Areas:** AI technologies in Robotics and Automation, Collaborative Robots, Advanced Mobile Robot Technologies
- ❖ **Research Focus Areas:** Hybrid and Electric Vehicle Technologies, Battery Management Systems, Vehicle Body Composites, Thermal and Fluid flow analysis
- ❖ **Collaboration Opportunities:** Mention opportunities for collaborative research, joint projects, and potential for funded research initiatives.

7. Success Story:

- Signed MoU with 4 leading industries
- Signed NDA for Mobile Agri robot development with Mayagreens, Coimbatore
- 5 Centre/Lab collaborated with leading industries
- 40+ industry connect for student and faculty development programs
- 15+ Industry connect for industry readiness program during weekends for deserving interested students
- Secured paid internships during 2nd year Mechatronics Engg students
- Faculty members are actively acting as Strategic Technical Advisor in the Board of ClusterVise, a Belgium based Start-up company