

MECHATRONICS DEPARTMENT

REPORT ON TWO DAYS INDUSTRIAL TRAINING

International Automobile Centre of Excellence (IACE), Gandhinagar

17th and 18th August 2026

Department	Mechatronics Department
Training Dates	17th and 18th August 2026
Participants	43 students — 31 from 3rd Year and 12 from Final Year
Training Area	Automobile and EV for third year Robotics and Industrial Automation for final year
Venue	International Automobile Centre of Excellence (IACE), Gandhinagar

1. Introduction

The Mechatronics Department organized a two-day industrial training programme at the International Automobile Centre of Excellence (IACE), Gandhinagar, on 17th and 18th August 2026 for 3rd Year and Final Year students. A total of 43 students participated in the programme, comprising 31 students from the 3rd Year and 12 students from the Final Year.

The training was planned to provide students with practical exposure to industrial robotics, robot programming, processing and applications in the automobile sector. The programme complemented classroom learning by giving students an opportunity to observe industrial robotic systems and understand their programming, operation and application.

2. About International Automobile Centre of Excellence (IACE)

International Automobile Centre of Excellence (IACE), Gandhinagar, is a joint venture of the Government of Gujarat and Maruti Suzuki India Ltd. The centre provides industry-oriented training and exposure in automotive technologies, including robotics and automation. Its association with Maruti Suzuki supports practical learning through industrial expertise, infrastructure and exposure to modern automotive practices.

The visit enabled students to experience an industrial learning environment and understand how robotics and automation technologies are integrated into automobile-related manufacturing processes.

3. Activities and Training Sessions

Day 1 – 17th August 2026

- The programme commenced with an introduction to IACE, its facilities, functioning and the opportunities available to students.
- An introductory assessment/quiz was conducted to assess students' existing understanding of robots and their functions. Students were organized into groups to facilitate effective hands-on learning and rotation through the training stations.
- The training included an introduction to industrial robots and their applications in manufacturing, with emphasis on programming and operation. Students were introduced to the use of a teach pendant for programming robotic operations such as pick-and-place applications.
- The injection-moulding robotic application was discussed, including the role of the robot in handling components and supporting the moulding process.
- Different approaches to robot programming, including teach-pendant-based programming and software-based programming, were explained.
- The software and back-end processes associated with robotic operation were introduced, giving students an overview of how software is used to configure and control robotic systems.



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Day 2 – 18th August 2026

- The second day focused on welding robots and their industrial applications.
- Students learned about the programming and operation of robots used for welding tasks.
- The trainer explained the major parts of the robotic system and their functions, helping students understand the overall operation of an industrial robot.
- Students were given opportunities to interact with the robotic system and practise programming tasks under the guidance of the trainers.
- The practical sessions helped students connect the concepts of robot programming and automation with real industrial applications.



4. Learning Outcomes

- Developed an understanding of industrial robots and their applications in automobile manufacturing.
- Gained practical exposure to robot programming and the use of teach pendants.
- Understood the basic programming and operational aspects of robots used for pick-and-place and welding applications.
- Developed awareness of the software and processing requirements associated with industrial robotic systems.
- Improved the ability to relate theoretical concepts of robotics and automation to real industrial systems.
- Enhanced teamwork, observation, problem-solving and practical learning skills through group-based training.

5. Program Outcomes Supported

PO1 – Engineering Knowledge: Application of engineering fundamentals and specialization knowledge to understand industrial robotic systems and their applications.

PO2 – Problem Analysis: Understanding and analysing robotic operations, programming requirements and industrial automation processes.

PO5 – Modern Tool Usage: Exposure to modern robotic equipment, programming tools, teach pendants and software used for industrial automation.

PO9 – Individual and Team Work: Participation in group-based training activities and collaborative practical learning in an industrial environment.

6. Conclusion

The two-day industrial training at IACE, Gandhinagar, was a valuable learning experience for the 43 participating Mechatronics students. The programme provided meaningful exposure to industrial robotics, robot programming, software-based control and robotic applications in automobile manufacturing. The combination of expert guidance, demonstrations and practical interaction helped students strengthen their understanding of robotics and automation and appreciate their relevance in modern manufacturing industries.

The training also strengthened the connection between academic learning and industrial practice, thereby supporting students in developing the technical awareness and practical skills required for future academic projects, internships and professional careers.