

EVENT REPORT

Name of the Activity:	Industrial Visit to Yaskawa – A Leading Robotics Company		
Activity Date(s):	11 th March 2025	No. of Participants:	40 student +2 Faculty

Department of Mechanical Engineering, MAIT organized one day industrial visit at Yaskawa India Pvt Ltd on 11 March 2025 for the students of Department. This company is a globally recognized leader in robotics, motion control, and automation solutions. With a strong presence in industrial automation, Yaskawa specializes in developing high-performance robotic arms that cater to various industries, including automotive, electronics, and manufacturing. The company is known for its cutting-edge technology, innovation, and contribution to the advancement of smart factories and Industry. The objective of this industrial visit was to provide students with practical exposure to the latest advancements in robotics and automation. The visit aimed to bridge the gap between academic learning and industrial applications, helping students understand how robotic systems function in real-world manufacturing environments. It was an opportunity to gain insights into automation, robotic programming, and the future of industrial



robotics.

During the visit, students had the opportunity to witness and interact with advanced robotic systems. Students got a good exposure to robotic arms used for material handling, welding, and precision assembly. The team at Yaskawa demonstrated the working of high-speed industrial robots and collaborative robots designed for safe human-robot interaction. We also learned about motion control systems that play a crucial role in automation. Additionally, students explored the programming and control aspects of these robotic arms, understanding how they enhance productivity and efficiency in industries. This visit provided valuable insights into the real-world applications of robotics and automation. Students of Mechanical Mait gained a deeper understanding of robotic technology, its significance in manufacturing, and its potential career opportunities. The hands-on exposure to industrial robots has inspired us to explore robotics and automation further. We are grateful to Yaskawa for this informative and enriching experience, which has significantly enhanced our technical knowledge and industry awareness.



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All Robots



1. **COBOT Palletizing:** One of the highlights of the YASKAWA Robotic Demo Centre is the Cobot Palletizing cell. Here, visitors can witness the remarkable stacking capabilities of the HC20DTP collaborative robot, which boasts a payload capacity of 20 kg. The demo showcases the stacking height achieved by the cobot, allowing manufacturers to assess its potential in optimizing their palletizing processes. The cell also highlights the intelligent features of YASKAWA's smart teach pendant and powerful pallet-mate software.



2. **Spot Welding:** YASKAWA partners with Denyo- a trusted channel partner, to present an advanced Spot-Welding cell. This demonstration showcases the SP210-spot-welding robot's precision and efficiency when coupled with Denyo's C-type spot welding gun. Visitors can witness features such as tip wear calculation and sheet thickness detection, providing insights into how these technologies enhance welding processes, resulting in higher quality and productivity.



3. **Machine Tending:** The Machine Tending cell in the Robotic Demo Centre simulates loading and unloading components using a dummy CNC machine. This demonstration illustrates how the YASKAWA GP12 robot seamlessly handles variant selection and efficiently transfers components. Visitors can observe the robot's meticulous inspection process and witness rejected components being accurately placed in the rejection bin.



4. **Arc Welding:** YASKAWA's Arc Welding cell presents the AR2010 Robot in conjunction with the MDB 250B, a two-axis positioner. This demonstration showcases the impeccable synchronization between the positioner and the robot, effectively exemplifying the efficient welding on car seat frames. The use of a laser pointer further highlights the precision and accuracy of YASKAWA's robotic welding solutions.



- (i) **Assembly:** The Robotic Demo Centre also features an Assembly Application cell, where visitors can witness YASKAWA GP25 robot in action. This demonstration highlights the robot's capability in performing complex assembly tasks with speed, accuracy, and repeatability. The cell showcases the potential of YASKAWA's robot to streamline assembly processes, resulting in improved production efficiency and reduced costs.



- (ii) **Painting:** Within the painting cell, YASKAWA exhibits the Moto Feeder and EPX1250 Robot combination, both of which are explosion-proof to accommodate the use of paint products. This demo provides a captivating insight into the world of automated car painting, demonstrating how YASKAWA's robot ensures precise and uniform application of paint. Manufacturers can witness the advantages of using robotic painting solutions, including enhanced efficiency, quality, and worker safety.

