ST.XAVIER'SCOLLEGE, MAPUSA GOA

Report of Activity conducted in the Academic Year 2025-26

Name of Activity	Field visit to EME Automation, Kundaim, Goa
Date/Duration	12th December 2025
Venue	EME Automation, Kundaim, Goa
Name of organizing Department/Cell	Department of Electronics St. Xavier's College, Mapusa, Goa
In collaboration with	
Name/s of Faculty Coordinator	Dr. Caje Francis Pinto Mr. Daryl Gonsalves Ms. Viola Fernandes
Stratum of Event	State Level
Name & details of Resource Person/s If any	Mr. Macjan Fernandes Mr. Ananr Toraskar Ms. Blaise Nazereth
Report	On 12th December 2025, the Electronics Department organized an industrial field trip to EME Automation, Kundaim, Goa, to provide students with practical exposure to industrial electronics and modern PCB manufacturing processes. A total of 14 students from the department of electronics, accompanied by three faculty members—Dr. Caje Pinto, Mr. Daryl Gonsalves, and Ms. Viola Fernandes participated in the field visit. Mr. Anant Toraskar, Production Manager at EME Automation, warmly welcomed the group and escorted them to the production area, where he provided a detailed explanation of the various machines and processes involved in electronic manufacturing. Students observed several key machines used in PCB assembly. The Paste Printing Machine was demonstrated, followed by the Solder Paste Inspection Machine, which provides a magnified image of the PCB and measures the height and width of solder paste traces. One of the most fascinating demonstrations was the Pick and Place Machine, where the circuit

	diagram is uploaded into the system and SMD components such as resistors, capacitors, and ICs are automatically placed onto the PCB with high precision. After component placement, the PCB is sent to the Reflow Soldering Machine, where soldering is completed at an ideal temperature range of 235°C to 245°C. The students also observed the Wave Soldering Machine, used for through-hole PCBs, along with certain stages where manual soldering was performed. Following soldering, the boards were inspected using the AOI (Automated Optical Inspection) Machine, which detects defects such as incorrect polarity, component misalignment, or orientation errors. Subsequently, the boards were sent to the Quality Control Section for visual inspection. Any defective boards were redirected for rework. This quality check process was explained by Mr. Blaise Nazareth, Quality Manager at EME Automation. After inspection, the boards moved to the Functional Testing Area, where firmware was uploaded using a bootloader. One of the projects demonstrated was *"Powering a Pump"*, in which sensors monitor parameters and send information via SMS, enabling remote control of the pump through mobile communication. Later, the students were taken to the WAR Room, where Mr. Macjan Fernandes, Project Manager, explained the complete product design process. He discussed factors such as product cost, component availability, efficiency, and input-output requirements. He also introduced concepts of black-box and white-box testing, emphasized the importance of block diagrams, microcontroller selection, and highlighted the distribution of work in industrial environments. Mr. Fernandes further recommended open-source PCB design software such as KiCad and discussed future career opportunities, encouraging students to develop a strong interest in electronics and circuit design. On behalf of everyone, Dr. Caje Pinto delivered the vote of thanks, expressing gratitude to EME Automation for the valuable insights and knowledge shared. Overall, the field trip was a fruitful and enriching experience, providing valuable industrial exposure and enhancing students' understanding of real-world electronics manufacturing.
Brochure/Poster	NA
Photographs	https://xavierscollegegoa.ac.in/wp-content/uploads/2026/01/images-Field-visit-to-EME-Automation-Kundaim-Goa.pdf
List of participants With signatures	https://xavierscollegegoa.ac.in/wp-content/uploads/2026/01/Attendance-Sheet-of-Field-visit-to-EME-Automation-by-Electronic-students.pdf
Certificate	NA