



Rajarajeswari College of Engineering

(An Autonomous Institution)

(Affiliated to VTU, Belagavi & Approved by AICTE, UGC & Govt. of Karnataka)



Department of Electronics & Communication Engineering (2024-2025 EVEN SEMESTER)

Event Name	Industrial Visit to DiFACTO Robotics & Automation Pvt. Ltd Survey No. 40/1, 2nd Phase, Sector 1, Talaguppe, Bidadi Industrial Area, Ramanagara-562109, Karnataka
Date	28th April 2025 & 29th April 2025
Duration	One Day – 10.00AM to 12 NOON
Organizer	Dr.A.M. Prasanna Kumar Professor, ECE Department
Programme Coordinators	1. Prof. M. Suresh 2. Prof. Kumari
Students	VI Semester A section

Objectives of the Program:

- Industrial visits help students pursuing professional education gain hands-on experience in executing industry operations.
- Industry visits bridge the gap between theoretical training and practical learning in a real-life environment.
- Industry visits provide opportunities for active/interactive learning experiences in class as well as outside the classroom environment.
- With industry visits, students can better identify their prospective areas of work in the overall organizational function.
- Industry visits help enhance interpersonal skills and communication techniques. Students become more aware of industry practices and regulations during industry visits.

Details On Our Visit

On 28th & 29th April 2025, students of the ECE Department assembled near the **DiFACTO Robotics & Automation Pvt. Ltd Survey No. 40/1, 2nd Phase, Sector 1, Talaguppe, Bidadi Industrial Area, Ramanagara** at 9.45 AM. The air was filled with excitement and curiosity as we prepared to visit one of the premier Robotics development centres in the country.

Part 1: Introduction and Overview

Upon arrival, we were guided to a seminar hall where we watched an informative video presentation on **DiFACTO Robotics & Automation introduction taken to the Robotics & Automation** assembly process, practical industry insights including how Foundry solutions automate casting and forging processes helps in better working conditions for human operators and increased throughput for our customers. Difacto solution offerings include handling of hot billets, handling molten aluminium, degating and deflashing castings, among many other applications. The video also showcased the various applications of turnkey robot-based automation systems for a whole range of industries including Car making automation industries

DiFACTO Robotics & Automation Mission is to deliver high quality, on-time and reliable automation solutions to improve the profitability and quality of our customers and enhance the health and safety of workers.

DiFACTO offers Robotic Automation Solutions to a wide range of industry segments and application areas. **DiFACTO** Robotics and Automation is a leading robot solutions provider in the Indian manufacturing sector. With a diverse portfolio of automation solutions catering to various industries, **DiFACTO** has established itself as a reliable automation technology provider to its customers. **DIFACTO** employs more than 200 engineers and has served customers in more than 15 countries over the past 14 years.

DiFACTO Robotics & Automation passion for excellence and exceptional customer service has kept us at the forefront of the market. **DiFACTO** believes in offering its customers a complete range of robotic solutions under a single roof.

Mission is to deliver high quality, on-time and reliable automation solutions in order to improve the profitability and quality of our customers and enhance the health and safety of workers

DIFACTO offers turnkey robot-based automation systems for a whole range of industries and applications including:

Body-in-White
Foundry and Forge
Arc Welding
Material Removal
Assembly Applications
Machine Tending
Material Handling
Sealing, Waxing and Spraying

DIFACTO is a premium Automotive "Body in White" line builder. Specialize in supplying robot automation lines for the following major assemblies

Main Floor, Rear Under Body, Underbody
Engine compartment, Long member, chassis etc
Roof Sub-Assembly
Body Side-Inner & Outer, Door Panels - Inner & Outer
Main Body Geometric & Re-Spot Lines
Chassis Welding Lines, Panel and body transfer conveyors and shuttles

DIFACTO Foundry solutions automate casting and forging processes helping in better working conditions for human operators and increased throughput for our customers. Their solution offerings include handling of hot billets, handling molten aluminium, degating and deflashing castings, among many other applications.

Handling of sand cores from core shooters
Sold core deburring (Defining), gluing and handling
Robotic Dross Skimming
Robotic Furnace Poking/Cleaning Solutions
Molten Metal Ladling
High-Pressure Die Casting extraction and insert placement
Low-Pressure and Gravity Die-Casting
Transfer of billets in and out of hot and cold forge machines
Runner and Gate Cutting Solutions
Fettling and de-flashing of castings
Robotic plasma cutting Robotic grinding and finishing

Visit to Robotic Assembly Applications

DIFACTO offers interfaces for inspection and vision systems for part identification which are to be assembled or located in the product. Single or multiple robots can be put together depending upon the component size. With low-risk investment and easy configuration, an automated assembly line satisfies the demands of manufacturing and quality.

DIFACTO has provided assembly solutions to industries involved in manufacturing of automotive components like pumps, motors, gearboxes, computers and consumer electronics.

Customized Solutions

Home Customized Solutions

DIFACTO develops new technologies to automate customer processes which have not been automated previously in a reliable, cost-effective manner. A few of the unique and exclusive automation solutions developed by Technology Development Group include:

High speed, flexible robotic 'Patient Information Leaflet' pasting application on medicine bottles for a leading pharmaceutical company. DIFACTO developed a machine designed to handle about 40 different PIL sizes and meet the customer specifications.

Tube-to-Fin Stack Insertion: Air conditioners (both domestic and commercial) use Evaporator Coil Assemblies as heat exchangers. DIFACTO, in collaboration with a leading Chinese household goods manufacturer has developed a unique machine to assemble the tubes to fin stacks in a fast, reliable and cost-effective manner, enabling automation of this labour-intensive operation.

Dross Skimming: DIFACTO has designed and developed a system to take-off the oxide layer from molten metal moulds of an ingot casting plant. DIFACTO developed a unique skimming tool with special material to withstand the very high temperatures of the molten metal as well as accurately follow the moulds on the moving conveyor.

DIFACTO initially built its reputation as a robotics and simulation services company. Despite turning into a full-fledged turnkey solution provider, DIFACTO still offers services to customers and system integrators. Some of services include:

Robot Simulation

Robot Off-line and On-site Programming

Process Engineering and Cycle Time Improvement

Virtual Commissioning

Calibration Services

IOT System Deployment

Apart from the domestic market, DIFACTO has offered our services across the globe in countries such as: USA, Brazil, Mexico, Germany, UK, France, Spain, Japan, Korea, China, Vietnam, Thailand, and many more. DIFACTO is experienced in working with different robots, PLCs, vision systems in a wide variety of application segments.

Part 2: Visit to the Working Floor

The final part of our visit was a tour of Robotics in action, which houses models of all the working and existing Yokohama Robots, as well as components such Robot Simulation, Robot Off-line and On-site Programming, Process Engineering and Cycle Time Improvement, Virtual commissioning, Calibration Services, IOT System Deployment. We saw working stack of Robots in machine floor.

After a brief campus tour, the students were led and returned to our RRRCE college by 1.30PM.

Q&A Interaction section

The visit concluded with an interactive Q&A session at their **Training & Placement** division, where students actively participated, and the dignitaries ensured all our questions were thoroughly answered.

Conclusion

The industrial visit to the **DiFACTO Robotics & Automation Pvt. Ltd** Centre was an eye-opening experience. It provided us with valuable insights into the intricate processes of Industrial Automation development and the cutting-edge technologies employed **DiFACTO Robotics & Automation** company. The visit inspired us to further explore careers in **Robotic & Automation technology** and contribute to India's advancements.

We extend our heartfelt gratitude to the Authorities of **DiFACTO Robotics & Automation Pvt. Ltd** officials, and the management of RRCE for permitting to organize this educational and inspiring visit.

Photos







Industrial Visit Coordinator

HOD/ECE