“Faculty Visit Report on Academic–Industry Collaboration at Hi-Mak Industry Pvt. Ltd., Vadodara”

EVENT DATE: 04/10/2025

1. **Introduction**

   The Department of Mechatronics Engineering, G. H. Patel College of Engineering & Technology (GCET), organized a faculty visit to Hi-Mak Industry Pvt. Ltd., Vadodara, to strengthen industry–academia collaboration and explore opportunities for laboratory upgradation and student training.

   The visit aimed to bridge the gap between academic learning and industrial practices, focusing on recent advancements in Hydraulic and Pneumatic Systems and PLC-based automation technologies. Discussions were held with Mr. Bhargav Vyas, Director, Hi-Mak Pvt. Ltd. and an esteemed alumnus of GCET, regarding emerging industrial trends, automation applications, and possible areas where academic institutions can align with modern industrial requirements.

   The visit also focused on identifying possible collaborative activities, including the development of automation setups for academic labs, student internships, and industry-sponsored projects to enhance the practical exposure and employability of students.

2. **Objectives of the Visit**

   The visit was conducted as part of the department’s ongoing initiative to strengthen industry–academia collaboration and identify opportunities for laboratory modernization and practical learning.

   The main objectives were to:

   - Discuss technological advancements in Hydraulic & Pneumatic Systems and PLC-based automation.
   - Explore possibilities for system design collaboration, CSR support, and industry-sponsored labs.
   - Identify internship and training opportunities for students.

3. **Details of the Visit**

   - Date of Visit: 4th October 2025
   - Faculties: **Dr. Vinod Patel, Dr. Ketan Tamboli, Dr. Ajay Patel and Mr. Sanjiv Rajput**
   - Industry Visited: **Hi-MAK Pvt. Ltd., Vadodara** – Specializing in industrial automation and control panel manufacturing.

4. Key Discussion Points

a) Technological Changes & Industry Trends

- Mr. Bhargav shared insights on the **evolution of industrial automation** compared to the technology available during his student years.
- He highlighted the shift toward **smart control systems**, **energy-efficient drives**, and **integrated PLC-SCADA architectures**.

b) Proposed Automation Setups for Academic Implementation

Several new automation training setups were discussed for integration into the Mechatronics Laboratory, including:

- **Water filling, heating, and cooling system automation**.
- **Electric motor operation under variable load conditions**.
- **Fan speed variation system for air circulation control**.
- **Heater temperature control system** with real-time feedback.
- **Torque and speed control automation setup** for advanced experiments.

  These proposed systems would enhance students hands-on understanding of industrial automation and control.

c) Demonstration of Siemens Training Modules

- Mr. Bhargav provided an **online overview** of **Siemens Sinamics V90** and **Sinamics S200** servo drive training modules.
- He showed the details of these setups, explaining how such **industrial-grade training modules** can be adopted by educational institutions for automation and control system training.
- These systems are useful for providing students with hands-on exposure to **servo control, motion automation, and PLC-based integration**, helping bridge the gap between academic learning and current industrial practices.

d) Discussion on Support and Collaboration

Possible modes of collaboration were explored, including:

- **System design assistance** from Hi-Mak for developing lab setups.
- **CSR partnership or industry-sponsored laboratory** establishment.
- **Joint workshops** and **training sessions** for students and faculty.

e) Student Opportunities

Discussions also covered the scope of **internships, industrial training, and live project guidance** for Mechatronics students at Hi-Mak Industry Pvt. Ltd.

5. Outcome of Visit

- The meeting concluded positively, with mutual interest expressed in developing a **long-term partnership** for academic enrichment.
- Hi-Mak Industry showed willingness to provide **technical guidance and possible system support** for laboratory development at GCET.

PHOTOGRPHS:


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