

## **Detailed Report on CSR Funded “Dr. Georg H. Endress Laboratory” (Pressure, Level, Temperature and Flow measurement Centre of Excellence)**

This newly established Laboratory at the Campus of our Institute is equipped with the world class set up for measurement of Parameters of Liquid viz. Pressure, Level, Temperature, Flow and PH etc. The laboratory is named after the German-Swiss entrepreneur in the area of measurement and control technology and founder director of the Multinational company i.e. **“Dr. Georg H. Endress Laboratory”** which is gifted under CSR by Endress+Hauser (India) Automation Instrumentation Pvt. Ltd. Ch. Sambhajinagar, this organization is representing Confederation of Indian Industry's Marathwada Zonal Council. The said Laboratory was inaugurated in the month of August 2022 at the auspicious hands of Mr. Sriram Narayanan, Past Chairman CII Maharashtra State Council & Managing Director, Endress+Hauser (India) Automation Instrumentation Pvt. Ltd. Ch. Sambhajinagar.

This entire unique and state of art Rig setup which is fully automated, IOT and Industry 4.0 enabled is prepared for our Institute by the German Engineers Mr. Florian Asal, Mr. Christian Hopfner and Mr. Markus Schartel under the roof of this esteemed organization. This Laboratory is covering an interdisciplinary approach. The rig is a combination of different tanks and vessels with several Endress+Hauser pressure and level appliances; which can be tested under a realistic environment. Both were planned and created by above engineers so that it's possible to simulate the devices on Demorig under changing temperatures, condensate formation and a changing surface based on bubbles by the local pressure grid.





Through this Laboratory, it's also possible to investigate the behavior of microwaves and ultrasonic waves in a metal or Plexiglas bypass. The utilization of the said Laboratory is for all our departments' viz. Mechanical Engineering Dept., Electrical Engineering Dept., Electronics Engineering Dept., Information Technology Dept. & Computer Dept. This test rig incorporates technical aspects from most of engineering domains providing vast exposure to high end corporate technologies.

By keeping in view, the world-class technology involved and the huge scope of this test rig, we decided to engage this test rig for each of the other department's as well under the knowledge transfer and skill enhancement. This Lab. also can be utilized for research purposes. We have listed out few scopes as below;

Following salient features of demo test rig spans over each discipline:

- 1) IOT & Industry 4.0 enabled. (IT & Computer Dept.)
- 2) Programmable Logic Controllers (PLCs) with modular and required components. (Electronics & Electrical Dept.)
- 3) Electronic circuits/relays/control board circuits/Power Tank working etc. (Electronics & Electrical Dept.)
- 4) Instrumentation including pneumatic circuits, solenoid valves etc. (Electronics & Electrical Dept.)
- 5) Liquid quality metering abilities (pH, study of demineralization process) (ASH Dept.)
- 6) Mini Industrial setup to showcase world class engineering practices. (All disciplines)
- 7) Pneumatics Systems (Mechanical Engg. Dept.)

At present we are utilizing this facility for the academic practical conduction and giving hands on training of "Web-based Modules" supported by Endress+Hauser (India) Automation Instrumentation Pvt. Ltd. Ch. Sambhajinagar.

-Report By-

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