IIOT Lab for Educational Institutions

Automation Excellence Private Limited (AEPL) with more than 150-man years of experience in automation on various types of industry has installed and commissioned Automation systems for a large number discrete and continuous process manufacturing. AEPL is one of the very few companies having capabilities to provide solutions in Control and Information solutions - including integration between Automation layer and ERP and configuring the different elements of IIOT as a connected Enterprise.

Objective:

AEPL in an effort to help the Engineering Institutions to develop “Industry Ready” Engineers in the field of IIoT, has designed a Lab project for hands-on experience

IIoT Lab is designed to offer engineering students the opportunity to learn and use cutting-edge IIOT solutions to not only increase their future employability, but also to enable them to systematically utilize a variety of 4th Industrial Revolution Technologies required in the engineering field.

Students can gain a wealth of knowledge from an exciting, investigative learning experience with hands-on exposure to an application development platform that they may not get in current classroom curricula. Providing an IOT education that is relevant to industry needs, ensures gainful employment of graduates and prepares them for becoming future innovators and entrepreneurs.
• **Layer One** - Sensors are embedded in objects or the physical environment to capture shop floor information and events.

• **Layer Two** - Edge Devices with embedded OS Hardware, which enables the local data concentration / storage and forwarding

• **Layer Three** – Industrial controllers and internet connectivity share information captured by sensors within IoT objects and act based on this information to change the environment.

• **Layer Four** - Through the aggregation and analysis of data, service platforms cater to customers. Service platforms also control IoT product’s end-to-end experience and enable customers to define system rules and update firmware.
Typical Architecture:

Standard Architecture

Optional

Functional Layer:

✓ Layer 1–Sensors and Actuators and other utilities
✓ Layer 2–Control layer (PLC, CNC, Lab view etc.)
✓ Layer 3-Centralized Control Layer (SCADA, DCS etc.)
✓ Layer 4-Factory Information Layer (MES)
✓ Layer 5- Business Information Layer (ERP)
✓ Layer 6 – Analytics Layer (Big Data, Analytics, Cloud Computing,
**Benefits:**

AEPL Delivers IIOT Lab equipment for Education Institutions with following Features

- Students can gain knowledge about shop floor environment
- IIOT package comes with Software and Hardware (Motor, Drive, Electronic Components), therefore students from different academic background can utilize it.
- IIOT package has unlimited Client/Data/Project/Device Connectivity, therefore any number of students can use the system concurrently.
- IIOT package supports advanced IIOT concepts like Big data, Data analytics, Cloud, Mobility etc.
- It helps the student to understand the latest technologies in the market and can have hands on experience on those technologies
- Student can do Lab projects / Final year projects / R&D projects.
- IIOT packages comes with Different modular features
- IIOT Packages comes with different price structure

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