Report

Technical Talk on "Innovative Approaches to HVAC, PLC, and SCADA Systems for Next-Gen Entrepreneurs"

Resource Person : Mr. Chandrashekar P, Senior Engineer in Electrical division, KGTTI, Mysuru
Date : 18th December 2024
Time : 12.30 AM
Location : Mechanical Seminar Hall, Department of ME, ATMECE, Mysuru
Mode : Offline

Department of Mechanical Engineering, ATMECE in collaboration with Institutions Innovation Council – ATMECE has organized a technical talk on "Innovative Approaches to HVAC, PLC and SCADA Systems for Next-Gen Entrepreneurs" for the students of the Mechanical Engineering Department on 18th December 2024.

Mr. Chandrashekar P, Senior Engineer in Electrical division, KGTTI, Mysuru expressed the importance of HVAC systems. These systems are integrating IoT (Internet of Things) sensors, enabling real-time monitoring, predictive maintenance, and energy optimization. AI algorithms analyse data to optimize performance, ensuring systems adjust based on actual usage and environmental conditions. Innovative Smart thermostats and automated controls enhance user comfort while reducing energy consumption. Additionally, geothermal and renewable energy systems are gaining traction, providing eco-friendly heating and cooling solutions. Variable Refrigerant Flow (VRF) systems are also increasingly used, offering precise temperature control and energy efficiency for multi-zone applications in commercial buildings.

Also, he enhanced the evolution of PLC technology focuses on edge computing, where processing power is moved closer to the source of data, enabling real-time decision-making and reducing network latency. Wireless communication in PLCs is enhancing remote monitoring, diagnostics, and troubleshooting, reducing operational downtime and maintenance costs. SCADA systems are undergoing significant transformation with the integration of cloud computing, which offers scalable, cost-effective solutions for remote monitoring and management. This is coupled with AI and big data analytics, providing advanced insights and predictive capabilities that enable businesses to optimize operations and reduce downtime.

Later, Mrs Manasa B, Engineer, KGTTI, Mysuru expressed Designing in the mechanical sector is crucial for creating efficient, reliable, and cost-effective products. It ensures the optimization of resources, enhances performance, and improves safety by incorporating precise calculations and advanced materials. Effective design helps in meeting industry standards, reducing waste, and minimizing operational costs. Additionally, well-executed designs promote innovation, contributing to competitive advantage and sustainability. In industries like automotive, aerospace, and manufacturing, strong design principles lead to the development of systems that are not only functional but also durable and environmentally friendly, ensuring long-term success and reducing the risk of failures.

The event was held offline, fostering a conducive environment for knowledge exchange and networking among participants. This session helped 3rd semester students to identify the Domain in which they wish to get the DST training provided by the Department. 5th and 7th semester students got more exposure towards HVAC, PLC, and SCADA Systems for Next-Gen Entrepreneurs.

Image gallery:

Poster

Mr. Chandrashekar P addressing students.

Mrs. Manasa B addressing students.