



HARNESS THE POWER
OF KNOWLEDGE

**Comprehensive Training Program
on Industrial Electronics and New
Instrumentation**

TRAIN



Introduction

Industrial electronics and new instrumentation play a crucial role in modern industrial automation, providing real-time monitoring, control, and optimization of complex processes

This comprehensive 5-day training program, delivered by Global Business Minds, will equip participants with in-depth knowledge and practical skills in the design, implementation, operation, and maintenance of industrial electronic systems and new instrumentation technologies

Day 1: Fundamentals of Industrial Electronics

- Overview of industrial electronics and its role in industrial automation
- Understanding the principles of analog and digital electronics
- Familiarization with various electronic components, such as transistors, diodes, capacitors, and resistors
- Exploration of electronic circuits, including amplifiers, oscillators, and filters

Day 2: Industrial Electronic Systems

- Understanding the architecture and components of industrial electronic systems
- Exploring the principles of power electronics, including AC and DC motors, drives, and control systems
- Familiarization with industrial sensors and transducers for measuring physical parameters
- Introduction to industrial actuators for controlling process variables

Day 3: New Instrumentation Technologies

- Overview of emerging instrumentation technologies, such as optical sensors, wireless sensors, and smart sensors
- Understanding the principles of fieldbus communication protocols for industrial networks
- Familiarization with industrial data acquisition (DAQ) systems and data analysis techniques
- Exploration of industrial Internet of Things (IIoT) applications and cybersecurity measures

Day 4: Design and Implementation of Industrial Electronic Systems and New Instrumentation

- Applying design methodologies and tools to create industrial electronic systems and new instrumentation solutions
- Selecting, configuring, and integrating industrial electronic components and new instrumentation technologies
- Implementing industrial communication protocols and networks for data exchange
- Testing and commissioning industrial electronic systems and new instrumentation for optimal performance

Day 5: Operation and Maintenance of Industrial Electronic Systems and New Instrumentation

- Familiarization with operational procedures and protocols for industrial electronic systems and new instrumentation
- Monitoring and controlling industrial processes using human-machine interfaces (HMIs) and supervisory control and data acquisition (SCADA) systems
- Implementing maintenance strategies and preventive maintenance programs for industrial electronic systems and new instrumentation
- Troubleshooting common problems and identifying potential issues
- Staying up-to-date with the latest advancements in industrial electronic systems and new instrumentation technologies

Target Audience

This training program is designed for engineers, technicians, and professionals involved in the design, implementation, operation, and maintenance of industrial electronic systems and new instrumentation in various industries, including:

- Oil and gas
- Petrochemical
- Power generation
- Chemical

- Pharmaceutical
- Water and wastewater treatment
- Manufacturing
- Food and beverage
- Utilities

Learning Outcomes

Upon completion of this training program, participants will be able to:

- Demonstrate in-depth knowledge of industrial electronics and new instrumentation technologies, including their principles, components, applications, and performance metrics
- Apply design methodologies and tools to create effective industrial electronic systems and new instrumentation solutions
- Select, configure, and integrate industrial electronic components and new instrumentation technologies
- Establish and maintain industrial communication protocols and networks for data exchange
- Operate and control industrial processes using human-machine interfaces (HMIs) and supervisory control and data acquisition (SCADA) systems
- Implement maintenance strategies and preventive maintenance programs for industrial electronic systems and new instrumentation
- Troubleshoot common problems and identify potential issues
- Analyze and interpret industrial data using data acquisition (DAQ) systems and data analysis techniques
- Stay up-to-date with the latest advancements in industrial electronic systems and new instrumentation technologies
- Address emerging trends and future directions in industrial electronic systems and new instrumentation applications

Certificate Delivered by Global Business Minds:

- Certificate of Completion in Industrial Electronics and New Instrumentation

Additional Notes

- This detailed professional training program can be tailored to specific industry requirements and application needs

- Hands-on exercises and case studies can be customized to reflect real-world challenges and scenarios faced by participants

- The training can be delivered in a blended format, combining in-person sessions with online modules for flexibility and accessibility

- Global Business Minds can provide ongoing support and resources to participants to ensure their continued success in industrial electronic systems and new instrumentation technologies