

Automation Technology & Robotics

Description

Acquire practical and project-oriented laboratory skills and expertise :

Automation trainers, mechatronics trainers, PLC trainers

Subjects :

- ✓ Automation technology
- ✓ Safety Technology
- ✓ Smart Factories
- ✓ Robotics
- ✓ IMS Industrial mechatronics system
- ✓ IPA Industrial Process Automation
- ✓ CIM Computer Integrated Manufacturing
- ✓ CNC Machines

Robotics

Robots play a key role in modern, highly automated and efficient production processes. The experiment sets for robotics technology guide automation or mechatronics engineers of the future step by step from the fundamentals, through handling the equipment and on to programming of robots. It also demonstrates optimized interaction with automated plant.



AUTOMATION TECHNOLOGY

Due to the growing importance of process automation the area of automation technology is taking on an ever greater role in industrial operations. This applies both for standard operations in production as well as for vocational training. Today automation technology almost always involves drive technology, closed-loop control and computer engineering. Due to the rapid developments in microcontroller and computer technology, automation has become one of the most innovative and breathtaking of all the areas of electrical engineering and electronics. Add to that the fact that novel industrial solutions like decentralization and visualization require new vocational training systems.

SMART FACTORIES ROBOTICS

The “Industry 4.0” initiative describes the implementation of so-called smart factories, which includes intelligent interaction between human beings and machinery. It involves the integration of intelligent workpieces, manufacturing equipment and flexible value-adding procedures into the production process. This seeks to achieve distributed production with a maximum of flexibility at a minimum of cost. In a smart factory, systems keep people informed about production and status and provide assistance with the control and monitoring of the process.

A smart factory is characterized by the communication between products and the machinery which makes them. The product retains information about its own manufacture in machine-readable form, on an RFID chip for example. With the help of this data, the passage of the product through the manufacturing system and the individual steps in its manufacture can be controlled.