Course : Industrial robotics, the basics

Practical course - 2d - 14h00 - Ref. RWR
Price : 1530 CHF E.T.

This course will introduce you to the range of robotics offered by the main manufacturers. You'll learn how to determine the characteristics of a robotic installation, how to choose the right technologies according to the type of project, the general principle of programming, and the safety aspect of a robot.

Teaching objectives

At the end of the training, the participant will be able to:

- Discover the robotic offer of the main manufacturers
- Know the characteristics of a robot
- General programming principles
- Mastering the safety aspects of a robot

Intended audience
Operators, set-up personnel, technicians, occasional workers, anyone wishing to learn the basics of industrial robotics

Prerequisites
No special knowledge required.

Practical details
Hands-on work
Numerous exercises on robot simulator.

Teaching methods
This course can be delivered in-house on a real robot, subject to logistical conditions.

Course schedule

1 The world of robotics in France and around the world

- Robotization.
- Why robotize?
- Robot deployment in France and around the world.
- General information and terminology.
- The various robots and their specific features (types, transportable loads, size, etc.).
- The collaborative robot.
- Building a robotic cell (carrier, electrical communication interface).
- Advantages and disadvantages of robotizing a plant.

2 Presentation of a robotized cell

- Example of a robotized cell.
- The programming interface.
- The on-board tool.
- Presentation of a range of robots.
- Example of a robot bay.
- Layout of a typical cell.

3 Displacement and programming principle

- Robotic position and speed control.
- Manual movement.
- Notions of part and tool markings.
- Programming principle.
- Movement types (movement instructions).
- Different types of programming (off-line on simulator and by learning).
- Introduction to simulator programming.
- Concept of production cycle.

Hands-on work
Set up a robotic cell using simulation software: configuration, importing components and positioning, learning robot reference points, creating a simple trajectory.

4 Safety management

- Personnel safety.
- Security of resources.
- Operator - Robot working conditions (collaborative concept).
- Robotic machine specifications.
- The requirements of a collaborative installation.
- Risk analysis of a robotized and collaborative machine.
- Safety function.

5 Robot cell maintenance

- Preventive maintenance (maintenance schedule).
- Curative maintenance.
- The skills required for maintainability.
- Control trajectories.
- Maintenance contracts with the manufacturer.