

1-DAY ONLINE PRACTICAL ROBOTICS

Duration: 8h

Role: Technicians, Engineers

Languages: EN, DE, FR

Class size: Up to 15 participants

Prerequisites: No prior robot programming experience required.

Basic technical confidence is recommended.

OVERVIEW

This one-day online course is designed for technical teams who want a practical introduction to robotics in a fully remote format before going deeper into brand-specific platforms or advanced automation work.

The day starts with core concepts: how robots move, how tasks are programmed, and how simulation supports safe learning and testing.

PhygiTrain, S3C's training environment, lets participants program and validate tasks in simulation and collaborate in coached exercises.

Participants complete hands-on simulation work, follow guided demonstrations of teach pendant workflows, and learn how simulation outputs are prepared for later deployment on real systems.

The format is concrete, practical and focused on what teams will actually do with robots in industrial projects.

WHO SHOULD ATTEND

- Maintenance and automation technicians
- Production and automation engineers
- Developers and technical project members entering robotics work
- Technical trainers or team leads preparing hands-on robotics adoption

LEARNING OUTCOMES

- Understand the basic building blocks of industrial robot systems and programming workflows
- Practise core robotics exercises in the PhygiTrain simulation environment
- Learn what teach pendant workflows are and how they differ from simulation or code-based work
- Write and test simple task logic individually and in guided exercises
- Understand how selected simulation work is prepared for later transfer to real robot execution through the S3C phygital workflow
- Leave with a clear view of what to practise next on real platforms and interfaces

CHOOSE YOUR TRACK:

- Prefer coding & AI → Software
- Prefer building physical systems → Hardware
- Prefer math-heavy modeling → Control
- Prefer end-to-end systems → Integration

This course links to:

- Integration
- Hardware

WHAT PARTICIPANTS WILL RECEIVE

- PhygiTrain exercise guide
- Robotics basics handout
- Teach pendant and simulation comparison notes

AGENDA

Module 1: Robotics basics and online environment setup

- Core robotics concepts: robot structure, coordinate systems, motion and task logic
- Introduction to PhygiTrain and the S3C phygital learning workflow
- First guided simulation exercises to understand movement, positions and sequence structure

Module 2: Practical robot programming in simulation

- Build simple robot routines in simulation step by step
- Exercises on paths, waypoints, sequence flow and common programming mistakes
- Coached hands-on practice so participants create and debug their own basic tasks

Module 3: Teach pendant workflows and robot-specific interfaces

- What a teach pendant is and why each robot brand has its own programming interface
- Live walkthrough of teach pendant interaction, point teaching and basic program flow
- Comparison between what participants do in PhygiTrain and what changes on real robot interfaces

Module 4: From simulation to real robot readiness

- Participant coding time to complete a practical simulation exercise
- Guided review of transfer steps from simulation outputs to real robot deployment workflows
- Remote case walkthrough of real execution and discussion of expected gaps versus simulation
- Wrap-up on next learning steps in robotics, teach pendant use and practical automation work

DELIVERY OPTIONS

- Private in-company live virtual session
- Public online session
- Includes hands-on simulation and guided simulation-to-deployment briefing