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**Training location**

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# Training planner 2022

## Robotics Benelux

Skilled and qualified people are necessary to reduce production costs and to exploit the full potential of modern robot technology. Many students are trained in our Benelux facilities every year.

ABB reserves the right to cancel or postpone a session if the number of participants is less than 3.  
Other training sessions on request.

All detailed information sheets of our training courses are available on request.

**Z** Location Zaventem, Belgium  
(in Dutch; French and English language on request)

**E** Location Etten-Leur, the Netherlands  
(in Dutch; English language on request)

\*The training sessions Basic IRC5, Programming RAPID and Extended Programming RAPID with RS are also modularly on request with Omnicore (instead of IRC5) controller and its specific FlexPendant.

# Training planner 2022

## Robotics Benelux

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## Basic IRC5 (2 days)

### Day 1: Basic Robot Safety & Operations

- IRC5 System Introduction
- Working safely with robots
- Jogging principles
- Get familiar with FlexPendant
- Starting up the system
- Collision management

## Day 2: Movement instructions & Program structure

- RAPID Program Structure
- Saving data
- Programming and modifying movement instructions
- Understanding TCP and Work Objects

Introduction to ABB robots and IRC5 controller.  
Program simple movements and perform basic actions.

## Programming RAPID (1 day)

- Back-up structure
- Tool and Work Objects definition
- Movements with offset and Reltool Functions
- Basic I/O Communication

Write and modify basic programs using various programming instructions and features of the ABB RAPID programming language.

## Extended Programming RAPID with RS (2 days)

- Programming RAPID with RobotStudio editor
- I/O configuration overview
- Conditional instructions
- Operator input instructions
- Manipulator calibration principles

Get acquainted with RobotStudio Basic online programming and configuration. Write and modify more extended RAPID code using various programming instructions and functions. Understanding the difference between Updating Revolution Counters and Fine Calibration.

### RobotStudio 6 Premium (2 days)

- Virtual Robot Station set-up
- Basic Graphical Programming
- External Axis Programming
- Advanced Graphical Programming

This training is intended for robot programmers and design engineers. It provides a general insight into the possibilities of designing and programming in a virtual environment. The participant will be able to build a standard virtual robot station and program it offline. Knowledge of CAD and RAPID is an advantage.

### Upgrade to Omnicore (1 day)

- New controllers and (collaborative) robots
- Working with new FlexPendant
- Wizard Easy Programming for Omnicore robots

Get familiar with the new Omnicore FlexPendant and connections. Presentation of the new hardware components.

### Advanced IRC5 (2 days, on request)

- Tools and Work Objects
- RobotStudio RAPID editor
- I/O and system parameters
- Modules and program organization
- Loops
- Routines and events
- World zones
- Interrupts and traps
- Error handling
- Motion performance and trigger instructions
- Program data and arrays
- User interaction
- Searching and program displacement

This course is a follow-up to the Basic IRC5 Programming and is intended for everyone involved in the design, commissioning or use of an automated system that contains an industrial robot. By using more advanced programming instructions and functions, one learns to create more complex programs.

**SafeMove** (2 days, on request)

- SafeMove Functionality
- SafeMove Graphical Configuration
- SafeMove Operation
- SafeMove Safety I/O Configuration
- Conditional Safety Configuration

Knowledge of how to operate and program IRC5 is required. The target group is everyone involved in the design, commissioning or use of software-based configurations and safety zones.

**Electrical Service IRC5 (4 days, on request)**

- System introduction
- Safety
- Use of the FlexPendant
- Jogging in different coordinates system
- Memory structure; back-up and restore
- Restart and Reboot procedures
- Create OS with RobotStudio
- Description of the IRC5 Single controller and safety chain
- Electrical circuit diagrams of the controller and manipulator
- Motor Drive system; calibration of the robot
- Troubleshooting

Learn how to locate and solve electrical defects as well as how to carry out preventive electrical maintenance on the robots. Understanding of the controller architecture.