FANUC

FANUC SOLUTIONS FOR EDUCATION

EMPOWERING SKILLS OF EXCELLENCE

Table of Contents

Leading the Way

REVOLUTIONISING MANUFACTURING PROCESSES WORLDWIDE

FANUC is committed to leading the next industrial revolution as an innovative partner, enhancing learning with comprehensive educational solutions. Offering a complete suite of tools – hardware, software, and real industry cases, supported by continuous assistance to foster essential skills. FANUC's turnkey solutions deliver practical knowledge immediately, preparing educators and students for the demands of a rapidly evolving marketplace. Partner with FANUC and empower the educational journey with future-proof competencies!

FANUC is a global pioneer in factory automation and a technology leader in CNC, robotics and ROBOMACHINE tools. As a pioneer of advanced technologies, we have revolutionised manufacturing processes worldwide since the 1950s.

Based on our commitment to relentless innovation, we are developing products of the highest reliability, accuracy and efficiency. As we move into an era characterised by rapid technological advancements, our mission remains steadfast: to equip industries worldwide with the tools they need for tomorrow.

FANUC Crosses Borders

PROVIDING A FULL RANGE OF PRODUCTS AND SERVICES TO MAKE YOUR BUSINESS GROW

With its innovative technologies and commitment to being there for customers around the world, FANUC looks beyond the horizon. Today, we have more than 270 locations supporting over 100 countries worldwide.

In Europe, our extensive network of subsidiaries provides sales, technical, service and training support across the continent. Our responsive and passionate team understands your needs – and guides you through your automation journey.

FANUC
FOR EDUCATION

Solutions for Education

THE FUTURE IS BRIGHT FOR STUDENTS WHO EMBRACE ROBOTICS AND ADVANCED MANUFACTURING TECHNOLOGIES.

AUTOMATION EDUCATION TRAINING PROGRAMS FROM FANUC

In today's competitive market, companies increasingly rely on robots and CNC technologies to boost productivity and stay ahead. However, many face challenges in finding individuals with the necessary technological skills. FANUC offers proven automation education programs and certifications to help schools deliver high-level training to their students.

Explore our automation education solutions to see how your school can help bridge the manufacturing skills gap.

OUR COMMITMENT

INSPIRE
Provide trainings and hands-on experience on programming and operating cutting-edge industrial robots, as well as CNC machines.

DEVELOP
Help developing professional skills required by the industry market.

GUIDE
Navigate the young generation towards promising fields of activity and support teachers in effective and engaging transfer of key competences required by the market.

SOLUTIONS FOR EDUCATION

Benefits for Your School

REAL-WORLD RELEVANCE
Our packages provide practical experience through programs, materials and tools, enabling students to bridge the gap between theory and practice, and preparing them to excel in modern manufacturing applications.

FUTURE-READY SKILLS DEVELOPMENT
FANUC IoT Ready Educational Packages equip students with hands-on machining and robotics expertise, positioning them for success in the ever-evolving automation industry, fostering adaptability, and enhancing their career prospects.

CUTTING-EDGE TECHNOLOGY
Equipped with the latest CNC and robotic technologies, FANUC Educational Packages ensure that users are trained on-industry standard equipment, enhancing their effectiveness.

STRONG INDUSTRY COLLABORATION
FANUC's partnerships with leading companies ensure high-quality education and up-to-date content, offering students insights and knowledge directly from industry experts, enriching their learning experience.

Our Offer
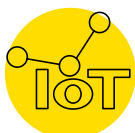
IOT READY OFFER
Interfaces and Ethernet software support as standard.

OFFLINE SIMULATION
Our offline simulation software NC Guide or ROBOGUIDE are included in the packages.

TEACHER SUPPORT
Benefit from comprehensive training programs for instructors and the extensive reach of FANUC Academy.

QUICK START GUIDE
All the essential information for the installation and initial setup.

EXERCISES
Full set of additional exercises in ´open source´ format.

CE-MARKED PACKAGES
All our educational packages are CE-marked, ensuring safer use in schools.

Possibility to Scale Up – Development Plan

BUILD YOUR COURSE

Partner with FANUC to bring your educational programs to the next level, with cutting-edge training and packages to develop the professional skills in automation and CNC machining needed by the market.

Begin with our user-friendly simulation software and grow with our comprehensive educational packages and training kits, up to realise a digital classroom.

Benefit from FANUC's extensive experience and dedicated support tailored specifically for the education sector. Our offerings include specialised training for teachers and a wealth of supporting assets to ensure effective learning experience and your institution's success every step of the way.

TEACHERS SUPPORT ▶▶

SOFTWARE & DIGITAL TWINS
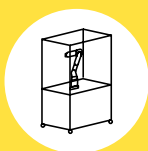
BASIC PACKAGES

APPLICATION KITS

DIGITAL CLASSROOM

TRAINING AND SUPPORTING MATERIALS ▶▶

FANUC
EDUCATIONAL PACKAGES

Educational Packages

FANUC Educational Packages are designed to give students hands-on experience with programming and operating industrial robots and CNC machines. They also help teachers effectively deliver the key competencies needed in the market, with specialized equipment and courseware.

At FANUC, we are passionate about automation and education. Our automated solutions boost productivity, quality, and cost-efficiency in manufacturing. That is why we have created the FANUC Educational Packages, providing essential skills for students to gain practical experience with cutting-edge technology. The packages are relevant for modern factory applications and include everything instructors need to teach effectively.

Robotic Educational Package

The robot engineering professionals of tomorrow can benefit from FANUC's educational cell, a plug-and-play solution that's ready to use straight out of the box. If you work in advanced manufacturing, it's likely you work with a FANUC robot, FANUC's educational cell features a FANUC ER-4*i*A industrial robot at its core, providing a solution for every curriculum. Popular with schools, colleges, universities, training centres, and OEM training facilities worldwide, our educational cell is the ideal and most cost-effective way to offer hands-on learning and develop skills in robotics.

Benefits

USER-FRIENDLY CELL

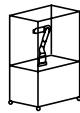The cell features a robust and stylish anodised aluminium frame, available in sleek silver and bold black options, offering both durability and aesthetic appeal. It is equipped with wheels for effortless transportation and stable feet to ensure steady operation. With a generous 10 m power cable and a standard 230 V plug, accessibility and flexibility are guaranteed.
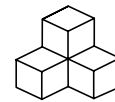
INCLUDED FEATURES

The package includes an electric gripper pre-mounted on the robot, along with a camera that is mounted and calibrated for immediate use. Additionally, it comes with a Nylon Solitaire board and parts, providing everything needed for efficient and seamless operation.

FEATURED ROBOT MODEL

The cell features the FANUC ER-4*i*A robot, a 6-axis mechanical unit with a payload capacity of 4 kg and a reach of 550 mm. Paired with the R-30*i*B Mate Plus Controller, it offers advanced control and functionality. The system is enhanced with an iPendant, featuring a touchscreen interface for intuitive operation, along with integrated *i*RVision for seamless vision capabilities.
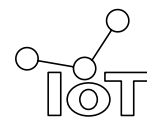
IOT READY

Thanks to its advanced connectivity, the system enables seamless communication and data exchange between components such as robots, sensors, and controllers. This facilitates real-time monitoring, predictive maintenance, and optimisation. Integration with cloud-based services empowers users with valuable insights. Finally, this connectivity enhances the educational experience by providing a platform for learning and experimenting with industrial automation technologies.

ROBOTIC EDUCATIONAL PACKAGE

Features Designed for Your Success

ROBOT SPECIFICATIONS

- FANUC ER-4*i*A
- 6-axis mechanical unit
- Payload: 4 kg
- Reach: 550 mm
- R-30*i*B Mate Plus Controller
- *i*Pendant with touch screen
- *i*RVision integrated vision
- 6 digital inputs / 2 digital outputs on robot arm
- 20 digital inputs / 20 digital outputs on controller
- 2 x ethernet ports
- 2 x double air solenoids on robot arm (air supply not included)

EDUCATIONAL CELL

- Strong anodised aluminium frame available in grey
- Wheels for easy transport and feet for stability
- 10m power cable with standard 230V plug
- Easy access door with safety switch
- Electric gripper pre-mounted on robot
- Mounted and calibrated camera
- Nylon Solitaire board and parts
- Slotted Aluminium work surface for easy customisation
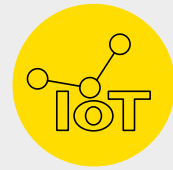
INDUSTRY 4.0/ IOT READY

- Ethernet software support as standard:
  - Robot Status
  - Program/ Variables / Diagnostics available over Web interface
  - *i*RVision and *i*Pendant remote interface
- Optional additional interfaces, e.g. Profinet available
- ZDT Ready - FANUC Zero Down Time is an IoT solution designed to eliminate unforeseen production stoppage and enhance FANUC robot performance

EDUCATION SOFTWARE BUNDLE

- Ready to run Solitaire application including *i*RVision and Dual Check Safety, with all source code
- Full operating setup, and calibration instructions for robot, *i*RVision and DCS
- Full set of additional exercises in 'open source' format

INSTRUCTOR TRAINING

- Everything instructors need to know in order to teach students how to operate a robot

PC SIMULATION SOFTWARE FOR STUDENTS

- ROBOGUIDE academic version simulation software
- Up to 16 single or server licenses

Enhance Your Education Programs With FANUC Training Kits

ENHANCE YOUR PROGRAMS WITH ADDITIONAL KITS THAT ENABLE NEW APPLICATION EXERCISES FOR YOUR STUDENTS.

WHAT IS A KIT?

A kit is a system of electronic and mechanical components, plus cables, that simulates real industrial applications and is controlled by a robot.

Easily mount any kit on a FANUC robotic cell – complete with all parts to get started quickly for training or competitions.

WITH THE KITS YOU CAN:

- Download CAD files for all kit components
- Customise layouts and optimise robot trajectories for best cycle times
- Create digital twins and complete robot setup, including programming and animations (ROBOGUIDE required)
- Program tasks using TPEB language for precise trajectory control
- Transfer programs between Roboguide and a real robot (ROBOGUIDE required)
- Connect and configure the I/O module block with the robot
- Create and test DCS parameters in ROBOGUIDE or directly on the robot (ROBOGUIDE required)
- Transfer DCS parameters seamlessly between ROBOGUIDE and the robot
- Design custom HMIs using free SharePoint Designer software
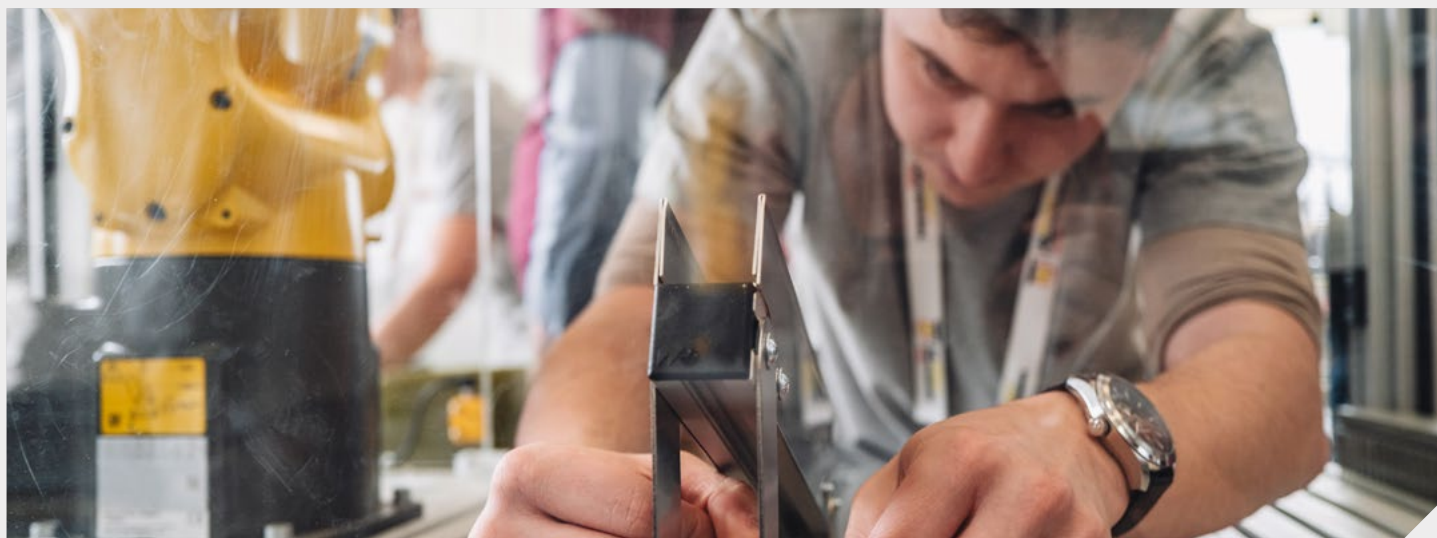
Cylinder Assembly Kit 2.0

SIMULATE THE ASSEMBLY OF CYLINDERS FROM THREE PARTS, VERIFY WITH MACHINE VISION, AND PLACE COMPLETED CYLINDERS ON A STORAGE TRAY.

WITH THIS KIT, STUDENTS CAN:

- Program cylinder assembly, including:
  - Loading and unloading machine simulations
  - Deburring trajectory programming
  - Testing assembly accuracy with sensors
  - Managing LEDs via background logic or program execution
- Align top and bottom part labels using Vision 2D (via ROBOGUIDE or robot)
- Connect and control peripheral devices

CONTENT:

- 1 x cylinder set (10 pcs)
- 1 x magazine for feeding parts
- 4 x tray
- 2 x try locator
- 1 x micro switch station
- 1 x deburring station
- 3 x LED
- 1 x chuck gripper
- 4 x support profile
- Cables & fasteners
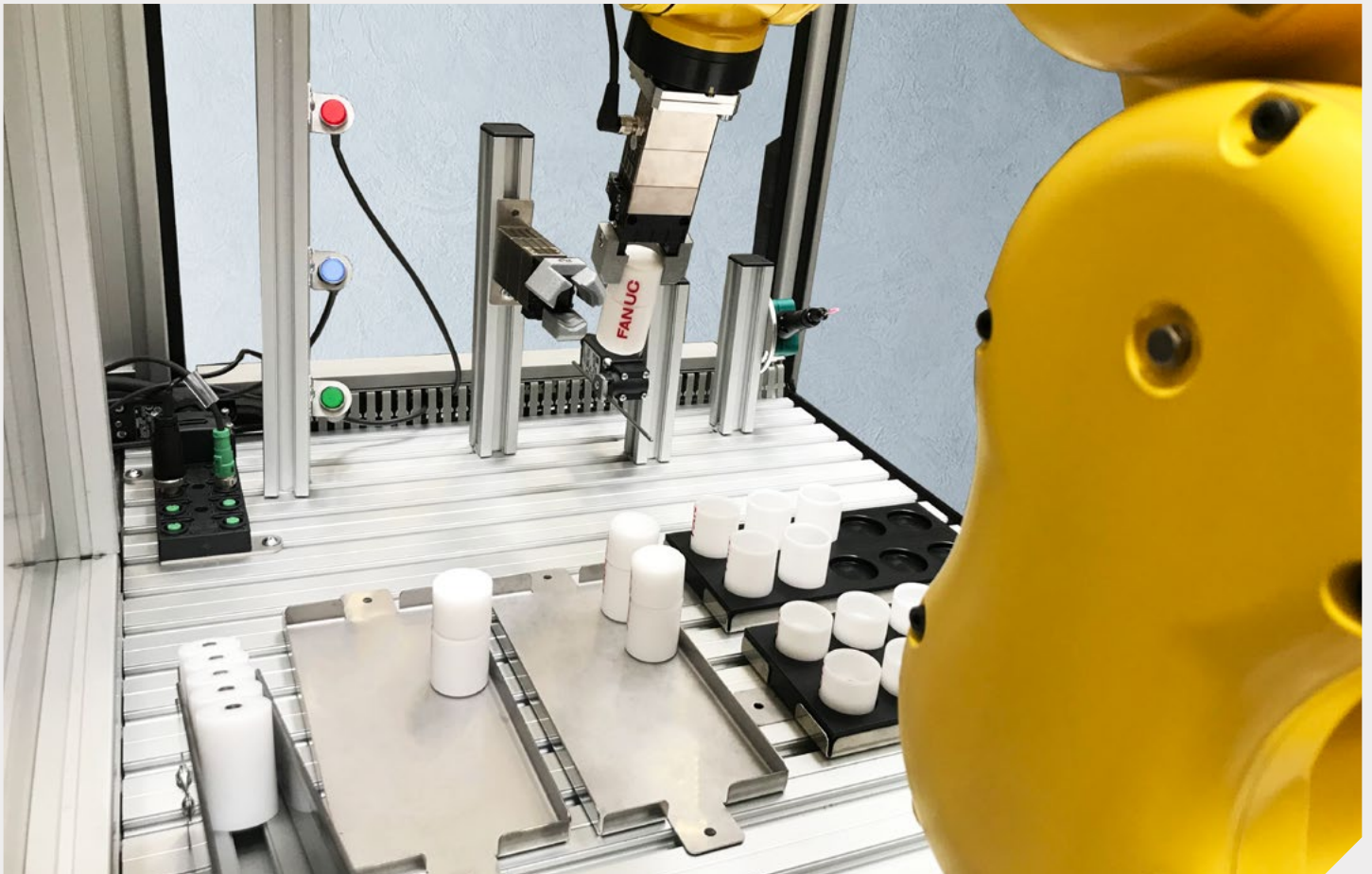
*Compatible with Robotic Cell only

e-Commerce Kit

SIMULATE A DISTRIBUTION SYSTEM IN AN AUTOMATED WAREHOUSE.

WITH THIS KIT, STUDENTS CAN:

- Program the robot to respond to simulation commands
- Select items using QR code scanning with Vision 2D
- Manage LEDs using Background Logic or program execution
- Control conveyors with sensors via Background Logic or program execution
- Connect and control peripheral devices

CONTENT:

- 1 x zoom lense
- 4 x support profile
- 1 x conveyor kit
- 2 x LED
- 2 x mini pallets
- 1 x I/O module
- 2 x gripper finger
- 1 x magazine for feeding parts
- 1 x set of parts for distribution (2 x 10)
- 4 x photoelectric sensor
- 6 x totes
- Cables & fasteners
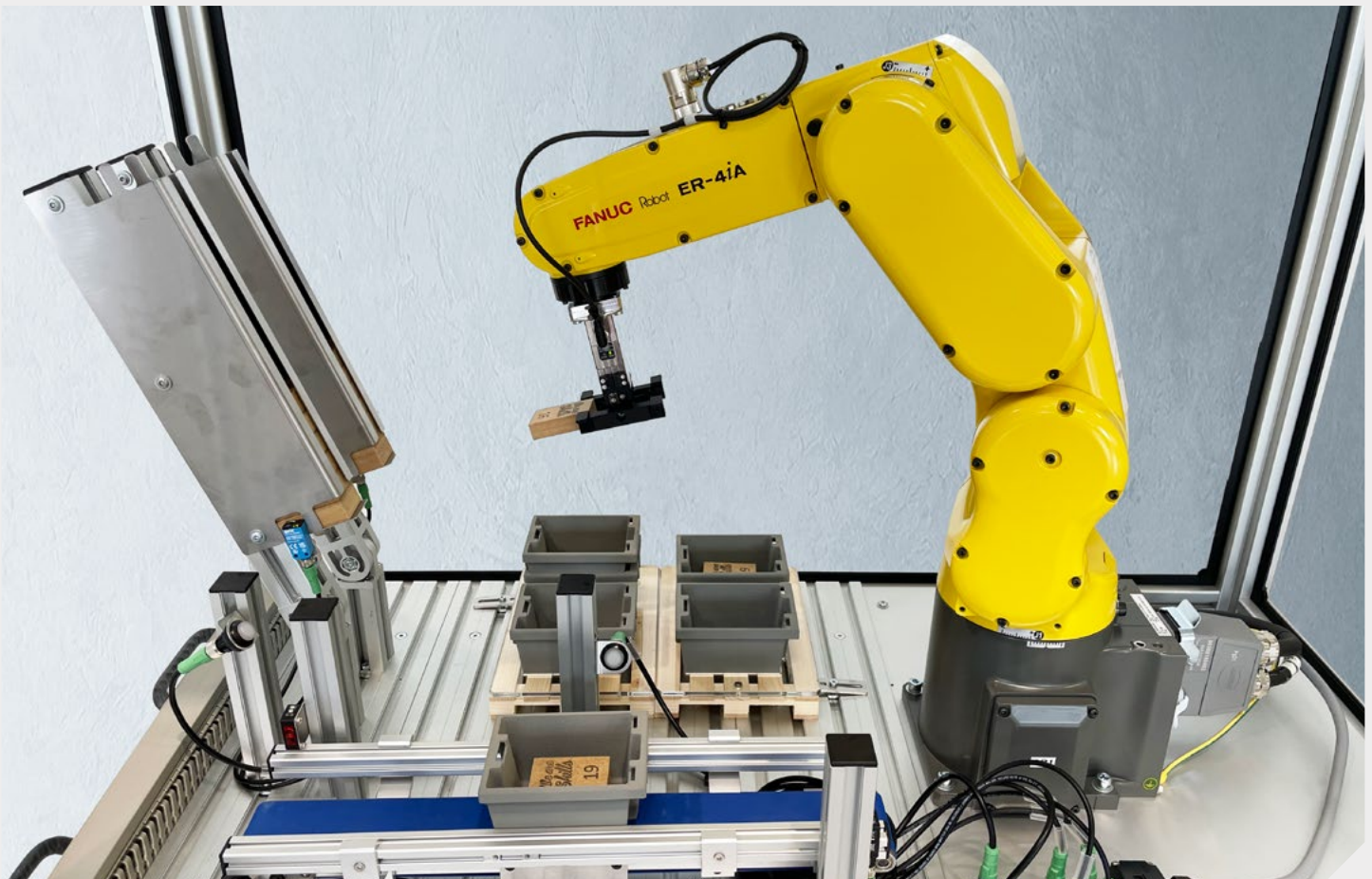
*Compatible with Robotic Cell only

Sanding Kit

SIMULATE AN AUTOMATED SYSTEM FOR SANDING VARIOUS PAINTED PANELS.

WITH THIS KIT, STUDENTS CAN:

- Generate robot trajectories using the CAD to Path option in ROBOGUIDE
- Use sensors, such as laser distance sensors, to identify part types
- Control pneumatic actuators using TPE language
- Perform Quick Mastering programming with a specialised fixture
- Connect and manage peripheral devices

CONTENT:

- 1 x turn table kit
- 1 x sanding tool
- 1 x photoelectric distance sensor
- 1 x level unit
- 1 x mastering fixture
- 1 x tools set
- 1 x set of brackets
- 1 x sandingparts set (4 panels)
- Cables & fasteners

** Compressed air is required to run this kit
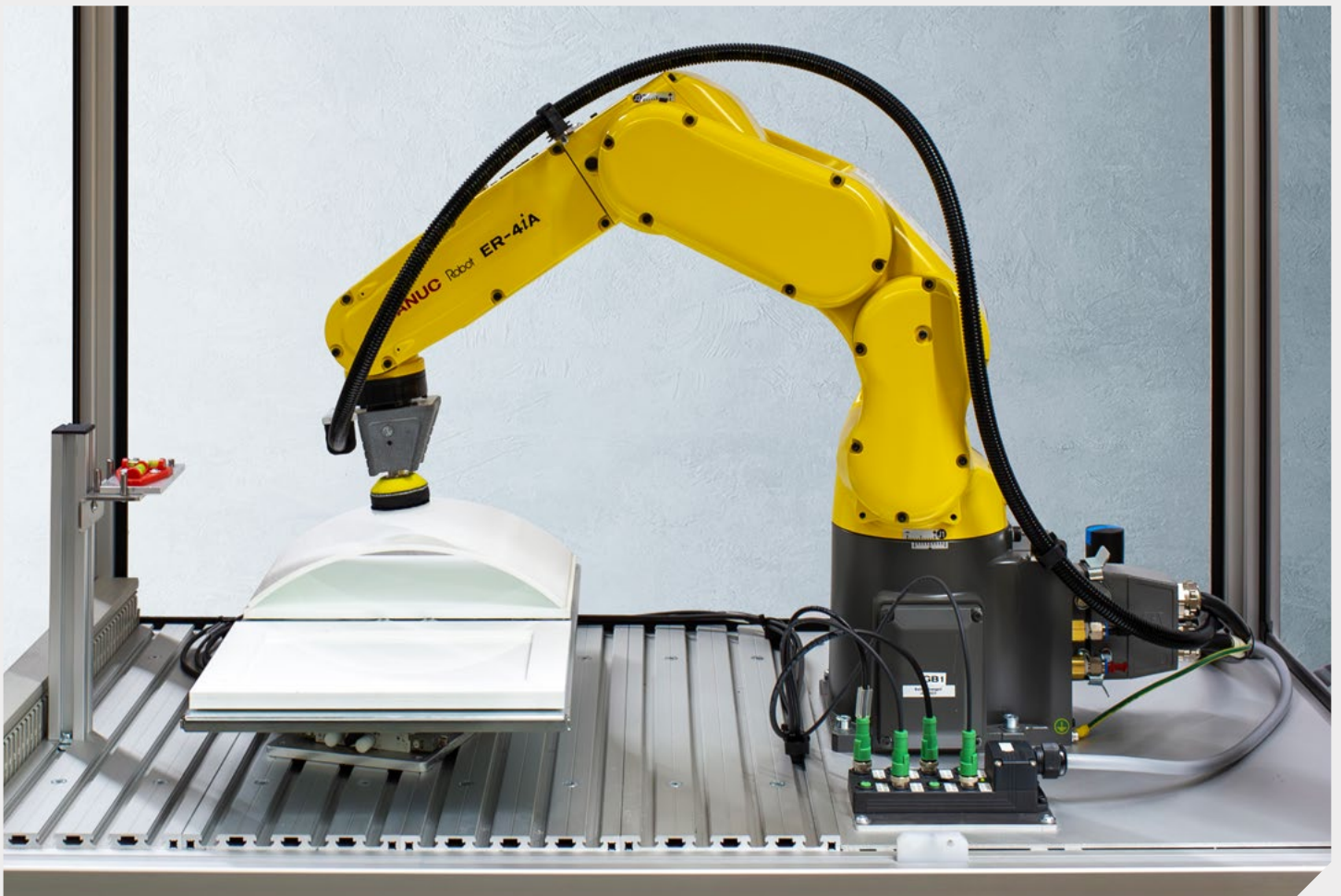
*Compatible with Robotic Cell only

Accessories

**EXPAND YOUR CAPABILITIES WITH ESSENTIAL ADD-ONS.
OUR ACCESSORIES ARE DESIGNED TO COMPLEMENT YOUR ROBOTIC
TRAINING KITS, OFFERING ENHANCED FUNCTIONALITY
AND FLEXIBILITY FOR A VARIETY OF APPLICATIONS.**

Conveyor Kit

Inspired by Henry Ford's innovation, conveyors have been a cornerstone of modern production since the 2nd Industrial Revolution.

Our 500 mm conveyor kit supports versatile applications, handling parts up to 80 mm wide, and can be directly controlled by a robot.

CONTENT:

- 500 mm long conveyor belt
- Cable for connection to the I/O module
- Bracket for mounting to the cell table

*Compatible with Robotic Cell only

Sensors for Conveyor

Photoelectric sensors enhance the conveyor kit for tasks like starting/stopping the belt, counting parts, and checking shapes. With retro-reflective technology and polarization filters, they detect various surfaces, and the visible red light ensures easy adjustments.

CONTENT:

- 2 x sensors
- 2 x reflectors
- 4 x brackets
- 2 x cables
- Screws & nuts

*Compatible with Robotic Cell only

I/O Module

This distributor box features 8 standard M12 slots, enabling connection of up to 16 PNP input or output devices.

CONTENT:

- Distributor box with standard M12 slots
- Cable and connector for direct connection to the robot controller
- Fasteners for secure mounting to the cell table

*Compatible with Robotic Cell only

Interior Lighting

No extra power supply is needed as it connects directly to the robot controller. Enhance safety and comfort with additional LED lighting for clear visibility in the work area. This ensures stable technical vision, day or night.

CONTENT:

- Lighting module
- Mounting bracket
- Cable

*Compatible with Robotic Cell only

Flight Box

Ensure your Robotic Cell travels safely and securely with this durable transport case.

CONTENT:

- Equipped with 6 wheels for easy transportation
- Soft interior inserts protect against impacts and scratches
- Sturdy ramp door allows convenient loading and unloading

*Compatible with Robotic Cell only

UOP Box

Simulate a real production system with the User Operator Panel (UOP) Kit, designed for direct connection to the robot controller.

WITH THIS KIT, STUDENTS CAN:

- Manually or automatically configure User Inputs (UI) and User Outputs (UO)
- Design a control panel with buttons and LEDs to run programs in automatic mode, with the robot as a slave
- Simulate sequences for robot operation and automate production workflows
- Set up key parameters like Reference Position and Pop-up Information for enhanced sequencing

CONTENT:

- UOP box
- Cable
- Connector for controller connection
- Mounting fastener for seamless integration into the robotic cell

*Compatible with Robotic Cell only

Air Filter Regulator Kit

Combine filtration and pressure regulation in one device for optimal pneumatic performance.

KEY FEATURES:

- Filtration grade: 5 or 40 µm
- Pressure range: 0.5 – 12 bar
- Ensures clean air by removing dust, oil, and moisture, protecting sensitive components
- Maintains consistent air pressure, preventing damage and optimising equipment performance
- Reduces maintenance needs, saving time and costs

CONTENT:

- Filter regulator unit
- Push-in L-fittings for 8 mm air tubes
- Brackets and fasteners for mounting to the cell profile

*Compatible with Robotic Cell only

Collaborative Educational Package

The CRX educational package offers a fresh approach to robot training. It features a FANUC CRX collaborative robot and includes all the functions required to teach core programming skills. With demand for collaborative robot solutions continuing to soar, FANUC provides a way to help students at schools, colleges, universities, training centres, and OEM training facilities prepare for a future in collaborative robotics. FANUC's package content is highly relevant to modern applications and includes everything instructors need to help new generations of robotics specialists realise their career ambitions.

Benefits

FEATURED COBOT MODEL

Choose from three FANUC CRX collaborative robot models with payloads of up to 10 kg. Paired with the R-30iB Mini Plus Controller, it offers advanced control and functionality. The system is complemented by a Tablet Teach Pendant, which features a lightweight, ergonomic design and provides a quick and easy way to programme.

USER-FRIENDLY CELL

The cell features a strong aluminium frame with a white powder-coated finish, providing durability and aesthetic appeal. It is equipped with wheels for effortless transportation and stable feet to ensure steady operation. With a 2 m power cable and a standard 230 V plug, accessibility and flexibility are guaranteed.
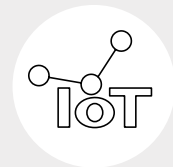
IOT READY

Thanks to its advanced connectivity, the system enables seamless communication and data exchange between components such as robots, sensors, and controllers. This facilitates real-time monitoring, predictive maintenance, and optimisation. Integration with cloud-based services empowers users with valuable insights. Finally, this readiness enhances the educational experience by providing a platform for learning and experimenting with industrial automation technologies.

COLLABORATIVE EDUCATIONAL PACKAGE

Features Designed for Your Success

ROBOT SPECIFICATIONS

- 6-axis Collaborative Robot
- FANUC CRX-10*i*A/L
  - Payload: 10 kg
  - Reach: 1418 mm
- FANUC CRX-10*i*A
  - Payload: 10 kg
  - Reach: 1249 mm
- FANUC CRX-5*i*A
  - Payload: 5 kg
  - Reach: 944 mm
- R-30*i*B Mini Plus Controller
- Tablet Teach Pendant
- Connectors on J6 for camera and configurable I/O

EDUCATIONAL CELL

- Strong aluminium white powder coated frame
- Wheels for easy transport and feet for stability
- 2 m power cable with standard 230 V plug
- Slotted aluminium work surface for easy customisation
- Available options:
  - Safety scanner
  - Electric gripper pre-mounted on robot, (other gripper options available)
  - Nylon solitaire board and parts
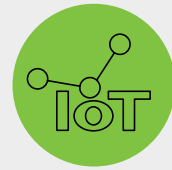
INDUSTRY 4.0/ IOT READY

- Ethernet software support as standard:
  - Robot Status
  - Program/ Variables / Diagnostics available over Web interface
  - *i*RVision and *i*Pendant remote interface
- Optional additional interfaces, e.g. Profinet available
- ZDT Ready - FANUC Zero Down Time is an IoT solution designed to eliminate unforeseen production stoppage and enhance FANUC robot performance

EDUCATION SOFTWARE BUNDLE

- Ready to run solitaire application including *i*RVision and Dual Check Safety, with all source code (depending on included options)
- Full operating setup and calibration instructions for robot, *i*RVision and DCS-camera and configurable I/O

INSTRUCTOR TRAINING

- Everything instructors need to know in order to teach students how to operate a robot

PC SIMULATION SOFTWARE FOR STUDENTS

- ROBOGUIDE academic version simulation software
- Up to 16 single or server licenses

Vacuum Gripper VGC10

Adapt to diverse applications with this versatile vacuum gripper featuring interchangeable suction cups.

KEY FEATURES:

• Two independently controlled air channels for simultaneous grip and release
• No external air supply required

CONTENT:

• On robot vacuum gripper
• Flange adapter
• Cable for direct connection to the EE connector

Schunk Gripper with Solitaire Kit

Boost your collaborative robot's performance with this electric gripper, featuring two parallel fingers and an integrated status display.

KEY FEATURES:

• Flexible and programmable for gripping small parts of various shapes and sizes
• Includes a solitaire board and 10 cylinders for creating countless pick-and-place trajectories

CONTENT:

• Electric gripper
• Flange adapter
• Cable for direct connection to the EE connector
• Solitaire board with 10 cylinders

Vision Kits

EMPOWERING ROBOTS TO SEE

*i*RVision is FANUC's unique, fully integrated visual detection system, enabling robots to operate faster, smarter, and more reliably. No external interfaces, PCs, or additional hardware are needed for setup or operation, making it a seamless solution for production.

WHAT THE *i*RVision CAN DO:

- Process visual images
- Pick and place randomly positioned and oriented parts
- Sort items by color, shape, or other features
- Read 1D and 2D barcodes
- Check completeness and dimensions
- Perform quality control tasks

VISION TYPES AVAILABLE:

- 2D Vision: Detect objects in a single layer (X, Y, R) and pick non-moving parts
- 3D Vision Sensor: Use structured light projection to detect objects (X, Y, Z, W, P, R) for advanced tasks like bin picking, depalletising, and material hawndling – even with dirty, rusty, or oily parts

CONTENT:

- Vision sensor (*i*RVision 2D or 3D)
- Schunk gripper
- Cable and bracket for robot flange mounting
- Solitaire board with 10 x cylinders

*i*RVision 2D

*i*RVision 2D enables robots to locate parts and determine their exact position and orientation (X, Y, Z, R), increasing production flexibility by eliminating the need for costly positioning fixtures.

2D FUNCTIONS:

UNLOCK POWERFUL VISUAL DETECTION CAPABILITIES WITH *i*RVISION FOR DIVERSE ROBOTIC APPLICATIONS:

2D SINGLE-VIEW VISION PROCESS:

Detects X, Y, R coordinates of stationary parts.

2D MULTI-VIEW VISION PROCESS:

Provides X, Y, R coordinates with higher accuracy for large parts using multiple camera views.

DEPALLETISING VISION PROCESS:

Determines X, Y, (Z), R coordinates for depalletising tasks.

2D CALIBRATION-FREE VISION PROCESS:

Processes X, Y, R coordinates without requiring camera calibration.

3D TRI-VIEW VISION PROCESS:

Outputs X, Y, Z, W, P, R coordinates using three or more 2D to find 3D offset of larger parts. Ideal for multi-robot operations in paint and sealing applications.

FLOATING FRAME VISION PROCESS:

Locates parts while maintaining the same relationship between part plane and camera across various robot positions.

SINGLE VIEW INSPECTION VISION PROCESS:

Delivers binary PASS/FAIL results and supports the AI Error Proofing Tool.

READER VISION PROCESS:

Reads 1D and 2D barcodes, including EAN-13, UPC-A, Code 39, DataMatrix ECC200, and QR codes.

IMAGE TO POINTS VISION PROCESS:

Extracts edge points from a 2D camera image for tasks like deburring.

APPLICATIONS:

- Material handling
- Palletising and depalletising
- Vision inspection

*i*RVision 3D

The FANUC 3DV sensor captures detailed depth images with a quick projection and snap of a single blue pattern.

3D FUNCTIONS:

ENHANCE ROBOTIC PRECISION AND VERSATILITY WITH
***i*RVISION'S ADVANCED 3D CAPABILITIES:**

3DV SINGLE-VIEW VISION PROCESS:

Outputs X, Y, Z, W, P, R coordinates of stationary parts.

3DV STITCHING VISION PROCESS:

Combines multiple depth images into one
for a larger field of view or depth data interpolation.

3DV MULTI-VIEW VISION PROCESS:

Uses three or more camera views
for highly accurate 3D offsets of large parts.

3D PEAK LOCATOR TOOL:

Identifies X, Y, Z coordinates of the highest points in a 3D map.

3D BLOB LOCATOR TOOL:

Detects X, Y, Z, W, P, R coordinates for 3D blobs
(connected points on a part's surface).

3D GF LOCATOR TOOL:

Finds X, Y, Z, R coordinates where a two-finger
gripper can safely grasp parts.

3D BOX LOCATOR TOOL:

Locates X, Y, Z, W, P, R coordinates of orderly
palletized boxes using a 3D box model.

3D CYLINDER LOCATOR TOOL:

Detects X, Y, Z, W, P, R coordinates for cylinders
using specified dimensions.

3D ONE-SIGHT-MODEL LOCATOR TOOL:

Matches X, Y, Z, W, P, R coordinates to a taught 3D model
or CAD file of a single part face.

3D COG MEASUREMENT TOOL:

Measures the center of gravity (Z) for parts
located by a 2D tool.

3D PLANE MEASUREMENT TOOL:

Calculates the plane (Z, W, P) for parts identified by a 2D tool.

3D OBSTRUCTION MEASUREMENT TOOL:

Detects obstructions (higher 3D points) above parts found by
a 2D tool, helping prevent interference before picking.

APPLICATIONS:

- Bin picking and tote picking
- Kitting and depalletizing
- Presence/absence checks
- 3D visual line tracking
- Low-contrast or noisy 2D imaging tasks

KEY FEATURES:

- Suitable for both 3D and challenging 2D applications
- Supports robot-mounted and fixed installations
- Vision types:
  - 3DV/70
  - 3DV/200
  - 3DV/400

ROBODRILL Educational Package

At FANUC, we are passionate about automation. Contributing significantly to manufacturing efficiencies, FANUC's automated solutions drive productivity, enhance quality, and minimise costs. That's why we have put together an Educational Package, combining our vertical machining centre ROBODRILL with our collaborative robot CRX-10*i*A/L. Designed with students in mind, it enables young people to gain not only first-hand experience in programming and operating cutting-edge robots but also in CNC machines. The package content is highly relevant to modern factory applications and includes everything instructors need for teaching purposes.

Benefits

FUTURE-READY SKILLS DEVELOPMENT

The ROBODRILL IoT Ready Educational Package equips students with hands-on CNC milling and robotics expertise, positioning them for success in the ever-evolving automation industry, fostering adaptability, and enhancing their career prospects.

REAL-WORLD RELEVANCE

This package provides practical experience through pre-designed NC programs, materials, and tools, enabling students to bridge the gap between theory and practice, and preparing them to excel in modern manufacturing applications.

STRONG INDUSTRY COLLABORATION

FANUC's partnerships with leading companies ensure high-quality education and up-to-date content, offering students insights and knowledge directly from industry experts, enriching their learning experience.
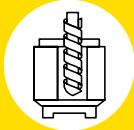
ROBODRILL EDUCATIONAL PACKAGE

Our Offer

Each package includes:

- NC program for a defined workpiece
- Aluminium raw material
- 5 tools for this workpiece
- 5 tool holders
- 1 vise, suitable to this work piece
- GoPro camera to view the inside of the machine

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60 months warranty

3-AXIS ROBODRILL
FANUC ROBODRILL D14M*i*BP

- 10 K spindle; 14 tools, BBT30
- Automatic pneumatic front door
- 3-colour signal lamp (CE)
- Robot Interface 2 Unit (Slave) FL-Net
- Transformer 20 KVA/ IP23
- 100 l tank and cutting coolant
- RENISHAW OMP40-2 + OTS

3-AXIS ROBODRILL WITH CRX COBOT
FANUC ROBODRILL D14M*i*BP + FANUC CRX-10*i*A/L

- Robot payload: 10 kg
- Robot reach: 1418 mm
- R-30*i*B Mini Plus Controller
- Tablet Teach Pendant
- Connectors on J6 for camera and configurable l/O electrical co-gripper
- Strong aluminium base

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60 months warranty

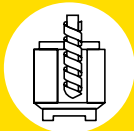## 5-AXIS ROBODRILL
FANUC ROBODRILL D21M*i*B5P

- 10 K spindle; 21 tools, BBT30
- Automatic pneumatic front door
- 3-colour signal lamp (CE)
- Robot Interface 2 unit (Slave) FL-Net
- Transformer 20 kVA/ IP23
- 100 l tank and cutting coolant
- RENISHAW OMP40-2 + OTS
- LEHMANN 4./5. axis rotary table
- RENISHAW measuring check up kit

5-AXIS ROBODRILL WITH CRX COBOT
FANUC ROBODRILL D21M*i*B5P FANUC CRX-10*i*A/L

- Robot payload: 10 kg
- Robot reach: 1418 mm
- R-30*i*B Mini Plus Controller
- Tablet Teach Pendant
- Connectors on J6 for camera and configurable 1/0 electrical co-gripper
- Strong aluminium base

Features Designed for Your Success

INSTRUCTOR TRAINING

- Everything instructors need to know in order to teach students how to: run a CNC machine; operate a robot; measure workpiece and worktool;calibrate a 5-axis table; connect a robot cell with a CNC machine
- Customised training materials for trainer and student

PC SIMULATION SOFTWARE FOR STUDENTS

- NC Guide academic version for milling and turning - Classroom version for 32 users

CNC Educational Package

Empowering future machine operators, FANUC CNC Solutions for schools provides educational institutions with industry-standard CNC technology. Our comprehensive package includes an industry-aligned curriculum, advanced CNC machinery for hands-on experience, and robust educator support. This investment in advanced manufacturing education boosts student employability and bridges the gap between academic learning and professional careers, ensuring that graduates are prepared for the modern workforce.

Benefits

INDUSTRY-RELEVANT TRAINING FOR THE FUTURE WORKFORCE

Prepare your students with hands-on FANUC CNC machine training, used in modern manufacturing, and empower them with key skills for the competitive automation sector.
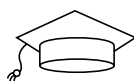
COMPREHENSIVE CURRICULUM

Access a wide range of learning materials and software, ensuring a well-rounded understanding of CNC operations.

HIGH-QUALITY EQUIPMENT

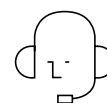Durable and reliable machinery that mirrors what is used in the industry, providing an authentic learning experience.

COST-EFFECTIVE SOLUTION

We offer an affordable solution for equipping your school's facilities.

ONGOING SUPPORT

Benefit from FANUC's world-class customer service and technical support, ensuring smooth operation and quick resolution of any issues.

CNC SOLUTIONS FOR SCHOOLS

Simulators

FANUC CNC educational package provides a safe, cost-effective training environment for your CNC operators and programmers.
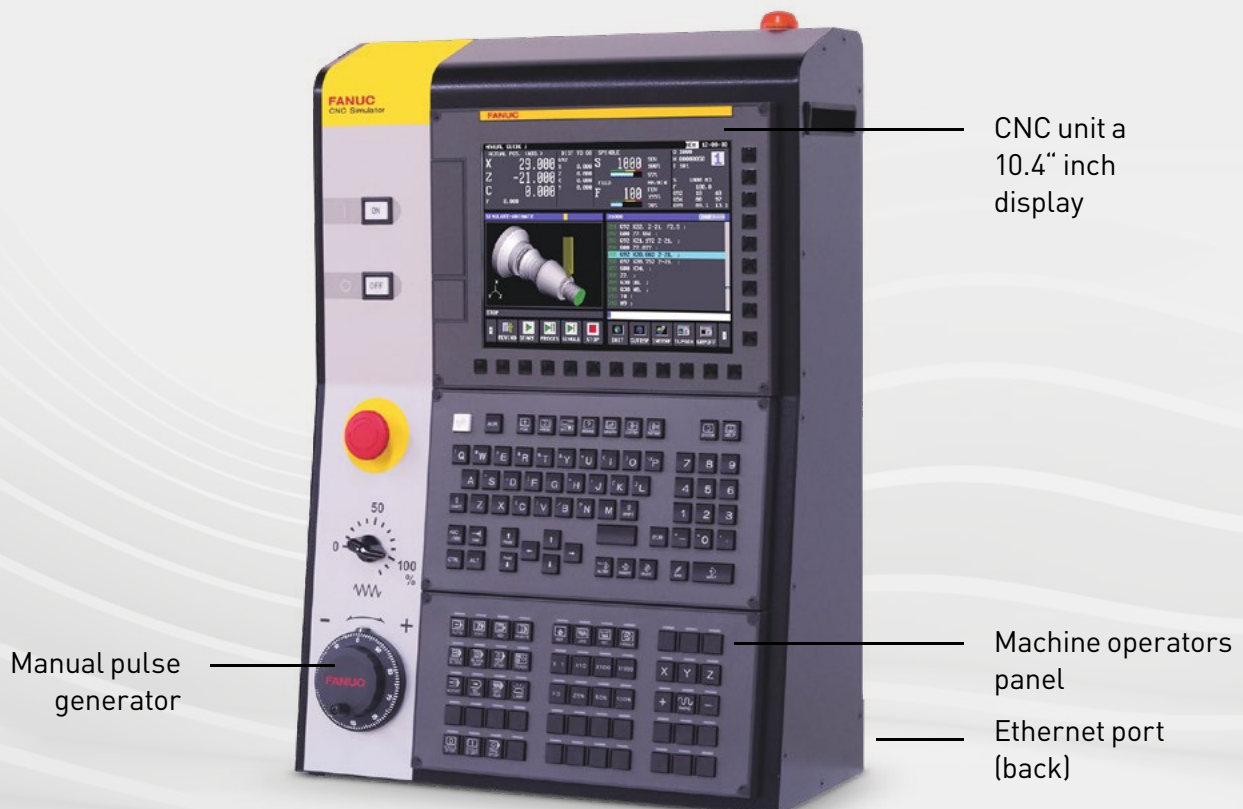
CNC Simulator

CNC SIMULATOR FEATURES:

- Featuring state of the art FANUC CNC Series 0i-F Plus
- Ready for use without setup
- All functions available
- Milling and Lathe system switchable on one simulator
- MANUAL GUIDE i installed for easy programming
- Equipped with E-stop switch, manual pulse generator, feed override, and universal power unit
- Possibility to connect to a computer network
- Easy to carry

CNC EXPERTISE FOR SCHOOLS AND UNIVERSITIES

All the Core Skills in a Dedicated CNC Unit
That's why we've put together the FANUC CNC simulator. Designed with students in mind, it enables young people to gain first-hand experience in programming and operating cutting-edge CNC machines for milling and turning. The function set is highly relevant for machine tool applications and includes everything instructors and students need for teaching and learning purposes.

CNC unit a 10.4″ inch display

Machine operators panel

Ethernet port (back)

Manual pulse generator

FANUC Machine Operator's Panel (MOP) Simulator

MOP SIMULATOR FOR CNC GUIDE

By using the Machine Operator's Panel (MOP) simulator for CNC GUIDE, you can provide training with the same operational experience as that of using an actual machine, but without the associated drawbacks, such as occupying capacity, the potential for collisions, and the high energy consumption.

FEATURES INCLUDE:

- Simple connection between PC and desktop operator's panel for CNC GUIDE using a single USB cable
- Customisable keyboard for the operator's panel to align with your machines and provide familiarity for trainees

Simulation Software & Digital Twin for Education

Discover our Simulation Software – the ultimate efficiency enhancer for your business. This innovative software simulates CNC machines, machine tools, or robot operations, reducing training costs and errors while providing the foundation for creating an immersive Digital Twin experience.

Our Offer

CNC GUIDE

CNC GUIDE precisely emulates the CNC, enabling programs to be written, tested, and optimised on a PC, increasing productivity by allowing work to be done off the machine. CNC GUIDE is ideal for classroom settings, making both educational and industrial training easily implementable, resulting in a more skilled workforce.

Discover More

ROBOGUIDE

FANUC ROBOGUIDE provides students with hands-on experience in robot simulation, allowing them to quickly create and test motion setups entirely offline. With the ability to import CAD data and access a vast library of parts, students can efficiently design and modify cells. Intuitive and easy to use, ROBOGUIDE equips students with practical skills in robot programming with minimal training.

Discover More

CNC REFLECTION STUDIO

FANUC CNC Reflection Studio enables CNC machine animation, part program creation, and editing. It allows you to view and simulate running programs, whether created within the software or downloaded from an external controller. The visualiser provides a detailed visual representation of the entire machining process, including tools, workpieces, fixtures, and machine elements.
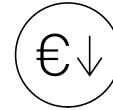
SIMULATION SOFTWARE AND DIGITAL TWIN EDUCATION

Benefits
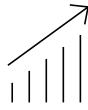
COST-EFFECTIVE TRAINING & SKILLS DEVELOPMENT

Our simulation software offers a virtual environment for learning CNC and robot programming, avoiding costly downtime and maintaining production efficiency.

COST-SAVING REAL-WORLD SIMULATION

FANUC simulation software replicates the behaviour of our CNCs and robots, reducing errors and downtime from improper programming while boosting programming skills.

ENHANCED PRODUCTIVITY & REDUCED ERRORS
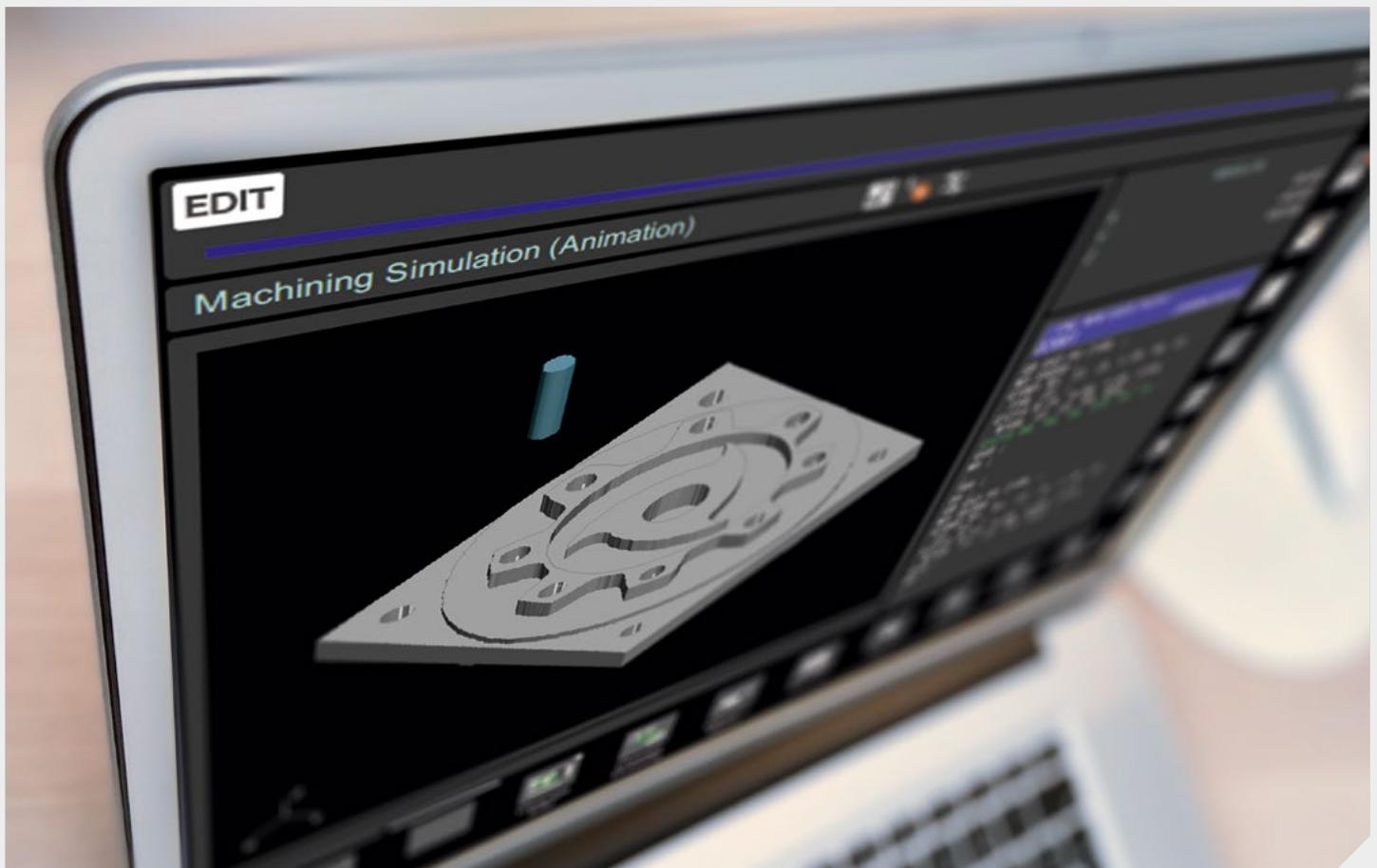
The simulation allows trainees to detect potential errors early, which, in real life, would cause waste and production downtime.

COMPETITIVE ADVANTAGE

Equipping students with CNC and robotic skills using cutting-edge FANUC technologies will give them a competitive advantage and help bridge the gap between labour market supply and demand.

NURTURING FUTURE INNOVATORS

Our Commitment

At FANUC, we are dedicated to inspiring and empowering the next generation of automation professionals. Through innovative educational programs, hands-on training, and exciting competitions, we provide young talent with the tools, knowledge, and opportunities they need to excel in the world of automation. By fostering creativity, curiosity, and technical expertise, we are helping shape the future of the industry – one young mind at a time.

INSPIRE
Provide hands-on experience to develope a passion for skills.

DEVELOP
Help developing professional skills required by the industry market.

GUIDE
Navigate the young generation towards promising fields of activity.

About WorldSkills

FANUC AND WORLDSKILLS: EMPOWERING YOUNG TALENTS

FANUC, proud Global Industrial Partner of WorldSkills since 2018, closely cooperates with and supports the WorldSkills organisation to promote young talents pursuing careers in industrial robotics. Through competitions, training programmes, and industry-leading technologies, FANUC nurtures the next generation of robot programmers and system integrators.

With over half a million robots installed annually and nearly 4 million in operation worldwide, the demand for skilled Robotics Integrators is soaring. These professionals design, integrate, and develop robotic solutions, ensuring optimal performance and safety in modern factories.

Join us in shaping the future of automation and innovation!

IMPROVING THE WORLD WITH THE POWER OF SKILLS

WorldSkills is an international organisation that brings together young talents by organising world and European championships for vocational skills. Their goal is to promote skills in society and motivate youth to pursue technical and vocational education.

In each WorldSkills member country, regional and national skills competitions are held to promote the power of skills and to identify the champions who will compete for their nation on the international stage.

WorldSkills and its members collaborate to elevate the importance of skills among young people, establish global standards, conduct joint research, share best practices, and advocate for the role of skills in driving economic growth and personal success.

ABOUT THE ROBOT SYSTEMS INTEGRATION SKILL

Robotics integrators play a crucial role in modern manufacturing by selecting, installing, and programming robots to perform complex and precise tasks. They determine the best robot for specific applications, such as picking and placing, machine loading, welding, and palletising. They also decide on optimal placement, manage part flow, and ensure safety. From initial assessments to connecting robots to power and other systems, and programming them, these professionals provide comprehensive technical solutions.

As robots become increasingly essential not only in large industries but also in small and medium-sized enterprises (SMEs), the demand for skilled robotics integrators is growing rapidly.
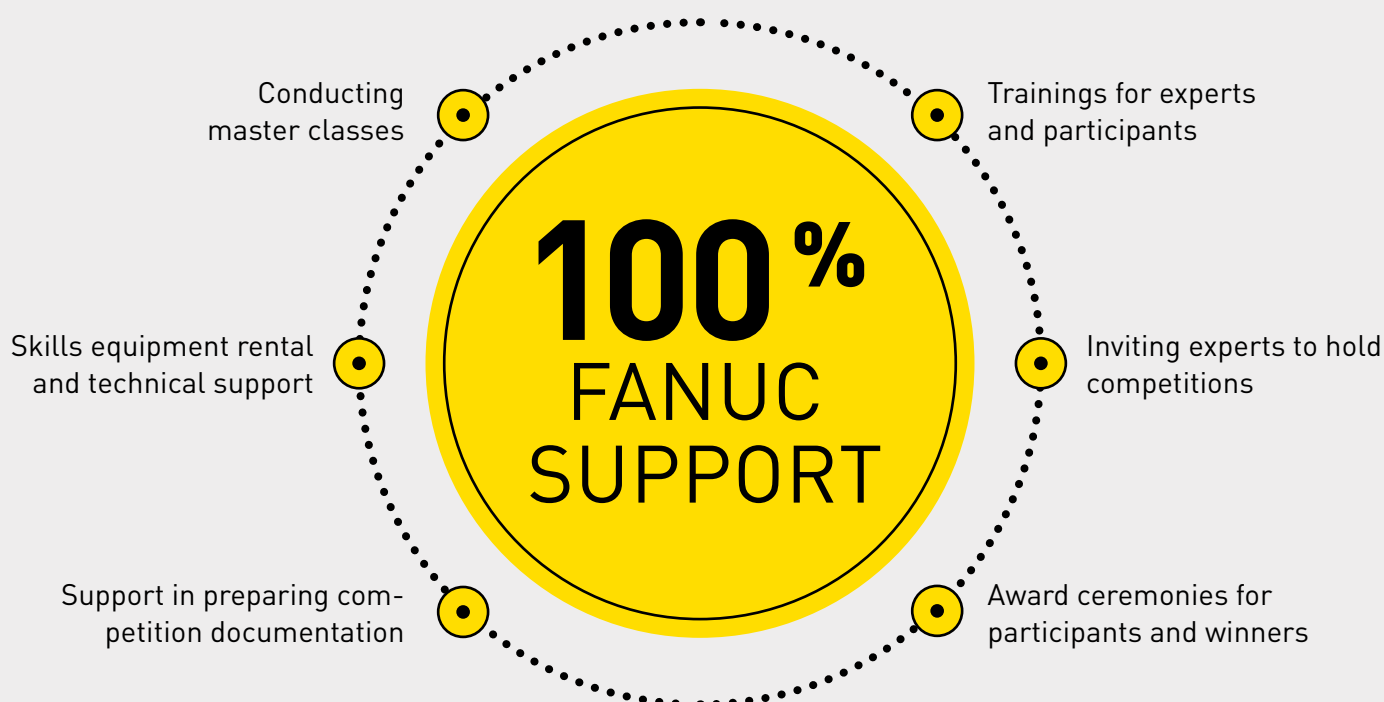
WORLDSKILLS YOUNG TALENTS

Support for Local Competitions & Events

COMPETITIONS FOR YOUNG TALENTS

WorldSkills is just one of the competitions we support. Locally, events like the FANUC Olympics offer students and teachers the chance to connect and gain advanced technical skills sought after by companies. Today, industry leaders actively contribute to this community through recruitment, training, and industrial projects.

Conducting master classes

Trainings for experts and participants

100% FANUC SUPPORT

Skills equipment rental and technical support

Inviting experts to hold competitions

Support in preparing competition documentation

Award ceremonies for participants and winners

LOCAL
PRESENCE
―――――

FANUC Academy

YOUR PATH TO AUTOMATION EXCELLENCE

The FANUC Academy is a gateway to mastering robotics and automation through a wide range of training opportunities tailored for every skill level, from beginners to advanced professionals.

Our courses are designed to equip students with practical, hands-on experience using the latest automation technologies, guided by experienced industry professionals. For educators and students, we offer specialised programs and resources to bring cutting-edge automation concepts into classrooms and labs. Whether you are a professional enhancing your expertise, an educator enriching your teaching, or a student preparing for the future, FANNUC Academy provides the tools and knowledge you need to succeed in the evolving world of factory automation.

FANUC Academy

WHETHER YOU ARE NEW TO FANUC PRODUCTS, AN EXPERIENCED USER, OR AN EDUCATOR, THE FANUC ACADEMY IS THE PERFECT PLACE TO ENHANCE YOUR EXPERTISE IN FACTORY AUTOMATION.

FANUC ACADEMY ADRIA

FANUC ACADEMY AUSTRIA

FANUC ACADEMY BENELUX

FANUC ACADEMY BULGARIA

FANUC ACADEMY CZEH

FANUC ACADEMY FRANCE

FANUC ACADEMY GERMANY

FANUC ACADEMY HUNGARY
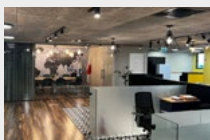
FANUC ACADEMY IBERIA

FANUC ACADEMY IRELAND

FANUC ACADEMY ISRAEL

FANUC ACADEMY ITALY

FANUC ACADEMY NORDIC

FANUC ACADEMY POLAND

FANUC ACADEMY ROMANIA

FANUC ACADEMY SLOVAKIA
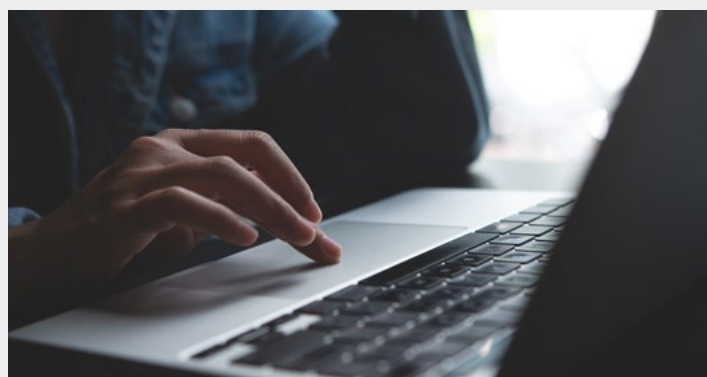
FANUC ACADEMY SWITZERLAND

FANUC ACADEMY TURKEY

FANUC ACADEMY UK

We Are There for You - Wherever You Need Us

IN EUROPE, OUR EXTENSIVE NETWORK OF SUBSIDIARIES PROVIDES SALES, TECHNICAL, SERVICE, AND TRAINING SUPPORT ACROSS THE CONTINENT. OUR RESPONSIVE AND DEDICATED TEAM UNDERSTANDS YOUR NEEDS AND GUIDES YOU THROUGH YOUR AUTOMATION JOURNEY.

GET IN TOUCH

For any questions, please do not hesitate to contact us.

CONTACT US

One common servo and control platform –
Infinite opportunities
THAT's FANUC!

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CNCs, Drives,
Accessories
and Software

ROBOTS
Industrial Robots,
Accessories
and Software

ROBOCUT
CNC Wire-Cut
Electric Discharge
Machines

ROBODRILL
Compact
CNC Machining
Centres

ROBOSHOT
Electric CNC
Injection Moulding
Machines

IoT
Industry 4.0
solutions