



ABB Robotics Education Package

Unlock the potential of STEM Education with robots

© 2023 ABB. All rights reserved.



Index

- 01.** Why ABB Robotics
- 02.** ABB Robotics in Education
- 03.** Robotics Education Package
- 04.** Software Offerings for Education
- 05.** Resources



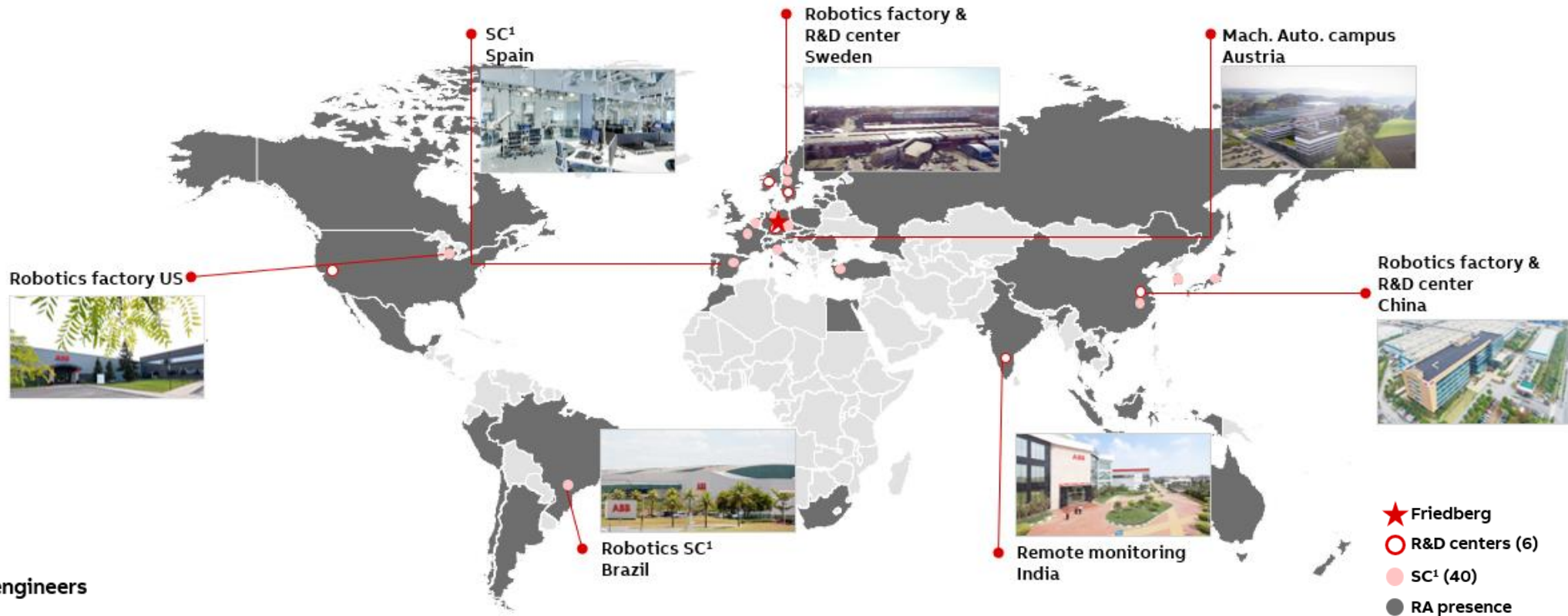
01

Why ABB Robotics?

A global player – close to customers locally

- The first global supplier to commit to US manufacturing
- We are Europe's largest robot supplier
- 100 locations and 53 countries, over 500,000 robots delivered
- A strong engineering & sales presence, supported by 25 global application centers

1,600 Service
1,900 Sales
1,000 R&D employees
1,800 Solution & application engineers
4 Incubators

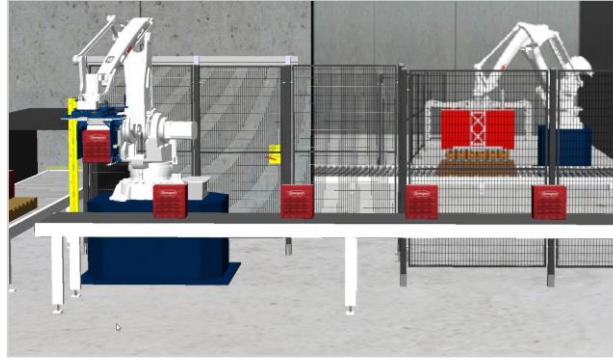


Complete value creating solutions

Deep domain know-how



End-to-end product portfolio



Software for advanced engineering and simulation



Domain expertise

Automation solutions for flexible manufacturing and smart machines



Automotive



Electronics



General industry



Logistics



Consumer goods



Machine automation

Technology and application leadership

From the robot to the complete smart system

Service

Application services

- OEE improvements
- Upgrades
- Lifetime extensions

Field service

- Data driven services
- Virtual support
- Predictive Maintenance

Spare parts

- Flat-free agreements
- Peace of mind



Smart systems



Application cells



Functional modules



Peripherals



Robots



Controllers



Products & solutions

Digital ecosystem

Business apps e.g. quality control



Common apps e.g. OEE



Partner apps



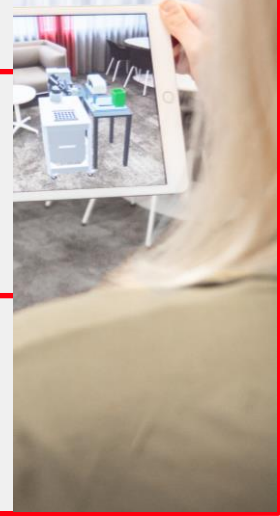
Partner apps



Common platform

- Data collection
- User, developer tools

RobotStudio Digital twin



—
02

ABB Robotics in Education

ABB Robotics Global Surveys

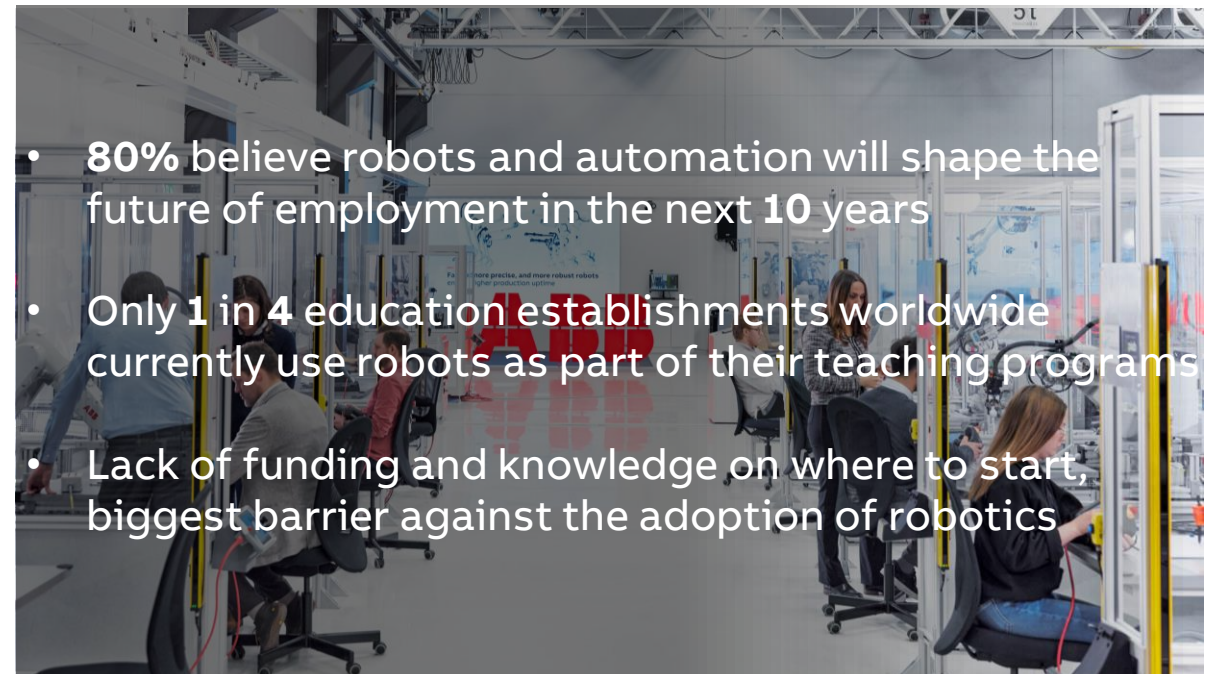
Students need robotics training to thrive in the workplaces of tomorrow

ABB global survey of 1,610 businesses in the US and EU



- **74%** of EU and 70% of U.S. businesses are planning to re- or nearshore production.
- **74%** of EU businesses are indicating investment in robotics and automation in the next three years, compared to **62%** in the US.
- A major driver is the growing **labor shortage** throughout industry, with millions of positions remaining **unfilled**.

ABB global survey of 2,301 education providers



- **80%** believe robots and automation will shape the future of employment in the next **10** years
- Only **1** in **4** education establishments worldwide currently use robots as part of their teaching programs
- Lack of funding and knowledge on where to start, biggest barrier against the adoption of robotics

Our surveys reveals lack of robotics and automation education despite trend of re-industrialization and increased demand for robots.

Global view indicating same predictions



Top 5 global robotics trends in 2023¹



01.

Robots more energy efficient



02.

Robots enable re- and nearshoring



03.

Robots easier to use



04.

AI and digital automation



05.

Second life for industrial robots



ABB's top robotics trends for 2023



01.

Robots will help plug the gaps in the global labor market



02.

AI will make robots easier to use



03.

More specialist partnerships between industry and educators will emerge

1. Source: International Federation of Robotics ifr.org

— 03

Robotics Education Package

ABB Robotics Education Package

Cobot for Material Handling Skills Pack

Education Cell

Education desk with activity tabletop and 3D printed activity kit

- Mobile, easy to move, small footprint, fits through a standard door
- Fun and easy to use - students will engage with the cobot and learn robotics



Course Materials

Complete teacher and student course materials

- 12 lessons for basic and advanced learners
- Teacher and student manual
- Student test after each lesson
- Engaging videos, Lab exercises
- 56 hrs of content



Global STEM Certification

Teacher becomes certified by ABB and then can certify their students.

- Teacher Certification
- Student Certification
- STEM.org will email the certificate directly to the teacher.



Education Cell

- Mobile, easy to move, small footprint, fits through a standard door
- Fun and easy to use - students will engage with the cobot and learn robotics
- Education desk with activity tabletop and 3D printed activity kit

Dimensions

- mm: 1143Lx838.2x 863.6H
- In: 45Lx33Wx34H



Course material

- 12 lessons for basic and advanced learners
- 56 hrs of content
- Teacher and student manual
- Teacher guide/lesson plan
- Student test after each lesson
- Over 400 test question bank so the teacher can build their own test
- Interactive online training
- Engaging videos
- Lab exercises to complete on the education cell
- Lab exercises to complete in RobotStudio, the lab exercise files are already prepared and developed in RobotStudio
- Virtual twin of the education cell with simulation available to use in augmented reality system and RobotStudio
- Robot has pre-programmed demo



Global STEM Certification

Teacher Certification

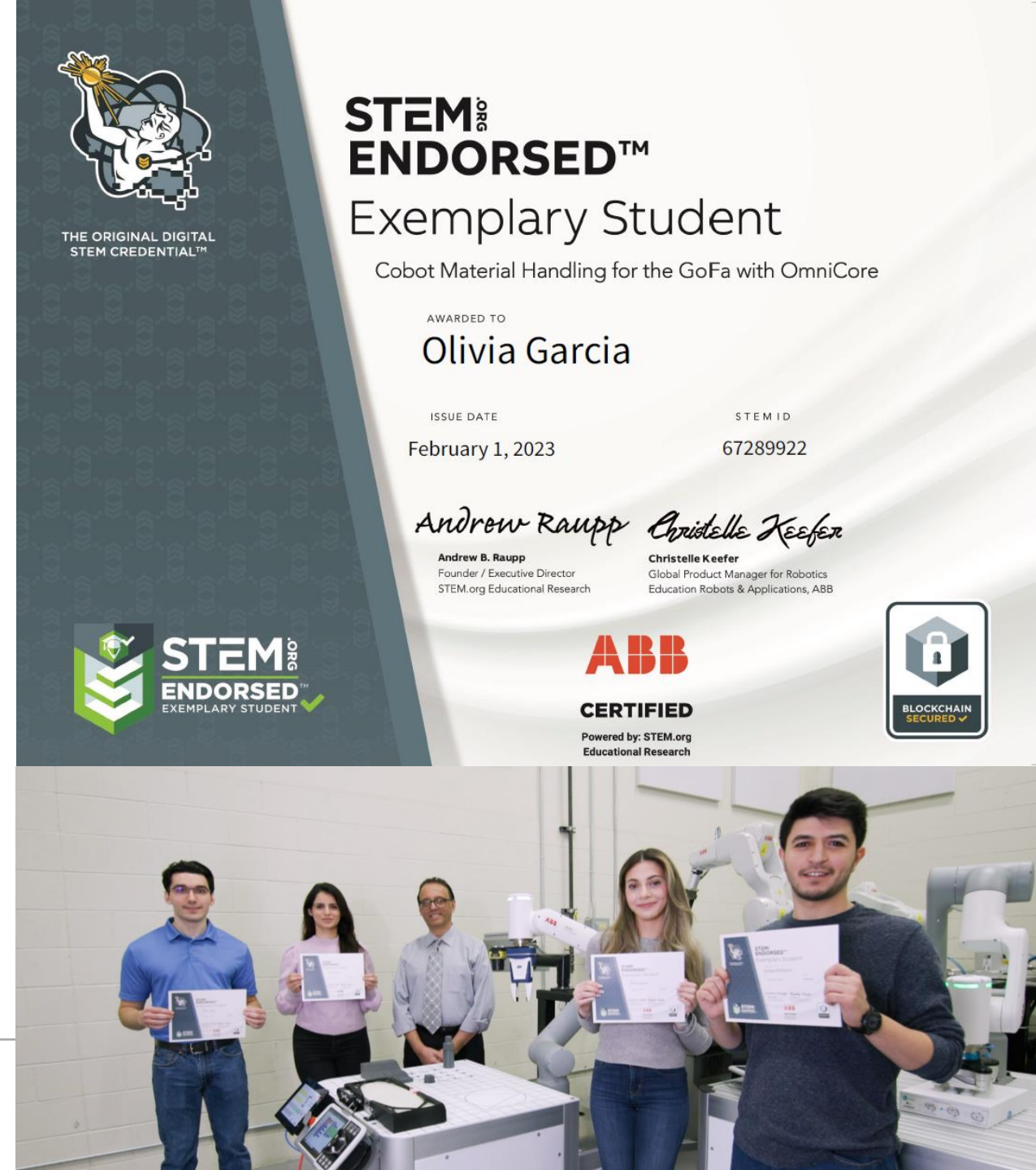
1. **Programming 1 for OmniCore** – complete ABB course or test out of the course with a score of 80% or better on the final exam (step 3)
2. **RobotStudio 1 for OmniCore** – complete ABB course or test out of the course with a score of 80% or better on the final exam (step 3)
3. **Successfully pass online global STEM certification exam** with an 80% or better

STEM.org will email the certificate directly to the teacher

Student Certification Process

1. **Successfully attend and complete the ABB Core Course materials** taught at their school by the certified teacher
2. **Successfully pass the online global STEM certification exam** with an 80% or better

STEM.org will email the certificate directly to the student

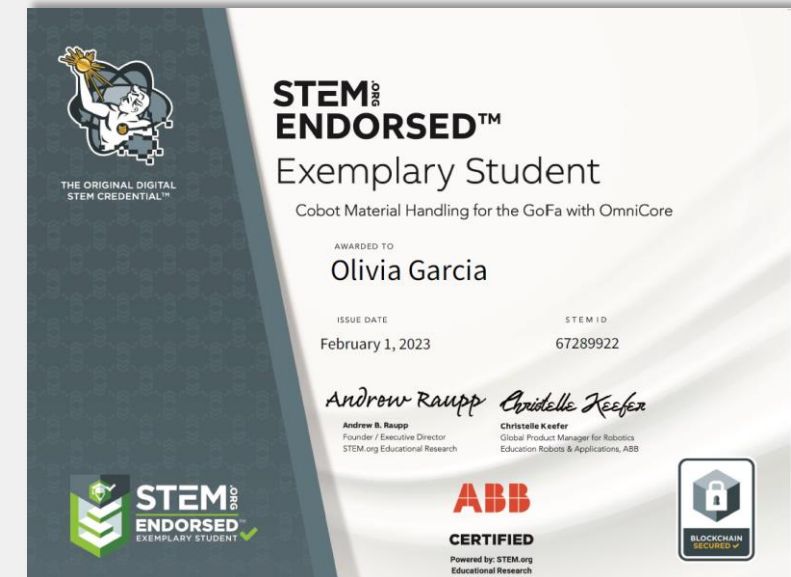


STEM.org

Educational research and credentialing organization

- STEM.org is an educational research and credentialing organization
- ABB is officially STEM.org accredited
 - Validation Portal <https://stem.education/ABB>
- This accreditation allows us to offer **globally recognized certification** (none of our competitors offer this)
- The Trustmark is recognized by schools, districts, organizations, government agencies and non-governmental organizations globally
- **Truly Global** – Affiliates in 80+ countries
- **Unique STEM ID#s** on student/teacher certificates can be shared on social media and verified online
- Only commercially available, **blockchain-secure STEM certification**
- STEM.org provides additional certification opportunities for teachers

Sample certificate



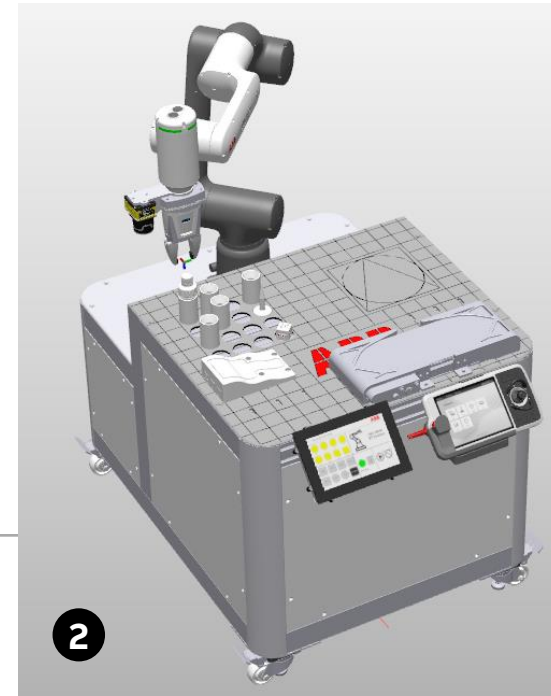
Package options

1 Core Package

1. Education desk
2. Education Activity tabletop
3. 3D Printed Education Activity Kit
4. C64 Schunk Electric Gripper
5. Course materials with global certification exam (teacher training sold separately through CS team)
6. GoFa

2 Advanced Package

1. Education desk
2. Education Activity tabletop
3. 3D Printed Education Activity Kit
4. C64 Schunk Electric Gripper
5. Course materials with global certification exam (teacher training sold separately through CS team)
6. **Dorner Conveyor**
7. **B&R HMI**
8. **Vision** purchased from factory
9. GoFa



Value propositions



Bridge the skills gap

Turnkey package allows educators to quickly implement robotic training into their program



Empower your educators

Easy-to-understand coursework, designed with teachers, helps students to quickly grasp industrial concepts



Learn from the leaders

Access a world-class portfolio and learn from the business of robotics through comprehensive training and support



Create careers out of curiosity

Easy-to-use cobots and intuitive software help students from any education stream to train in robotics



Customizable curriculum

Additional advanced training lessons are included in the package so teachers can adapt the course to match students' skill levels



Enhance employment opportunities

Train students in real-life applications and develop certified occupational skills



Differentiators

Investing in educators and future industry leaders

Goals: Prepare the workforce of tomorrow and bridge the gap between educators and industry.

- **Turnkey STEM education solutions**
- **Comprehensive STEM curriculum materials** – made by teachers for teachers and students
- **Free**
 - **100 Premium RobotStudio licenses donated** (no robot purchase required)
 - **AR viewer app** – experience augmented reality with ABB
- All education products are **STEM.org Authenticated**
- **ABB globally recognized STEM.org certification** for teachers and students
- **Mobile robot cell designed specifically for educators**
- **Excellent customer service**
- **Training to support teachers** in learning our products
- **Ease of use**

STEM.org Trustmark is recognized globally by schools, districts, organizations, government agencies, and non-governmental organizations.



04

Software offering for Education

RobotStudio for Education

Offline robot programming software

Key Benefits for Students/Education members



Learn about robotics without any devices

With RobotStudio, every user can learn how to program and use a robot/cell without needing any physical devices



Learn with virtual labs

Robot programming can be taught via virtual labs which maximizes in-class and hands-on instruction



Get Premium licenses for free

The Premium license is for free for every education member



Explore robotics with clarity

Program simulations help students see abstract concepts such as robot motion control parameters with clarity



Be prepared for the real work life

Using a professional programming software during their studies, insures them to get ready for their future work life.



Being always close to cutting-edge technology

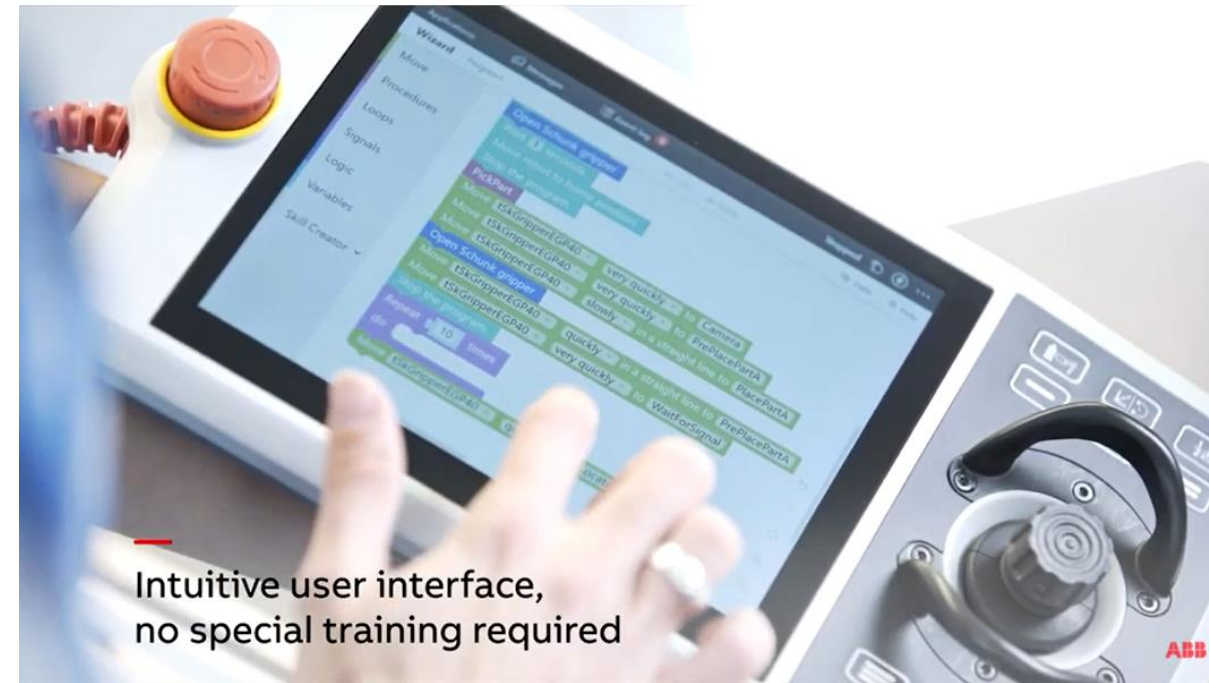
Get access and use the latest technologies in the industry and attract students to join your school

Wizard Easy Programming

Program robot applications within minutes

Wizard easy programming is an easy graphical programming interface for your robot. Only a few minutes after the installation you will be able to operate your robot. No specialized training or programming skills are required.

<https://youtu.be/9Yh8VHYKhAo>



Intuitive user interface,
no special training required

Augmented Reality

ABB's RobotStudio® AR viewer provides a quick and convenient way of visualizing how robotic automation can fit into your lab/classroom using a smartphone or tablet.

Benefits

- Full interconnectivity between the virtual and real world
- Helps facilitate team projects
- Useful to help show assignment details
- Significant cost savings to mimic real-world robotic environments without having to spend money on industrial equipment and materials
- App is available free of charge on the Apple Store and Google Play Store and viewable on any compatible smart device

Click here to learn more: [RobotStudio® AR viewer app | ABB Robotics - RobotStudio | ABB Robotics](#)





Resources

Stay Connected

Resources

Education website - [Robotics in Education - Industries | ABB Robotics](#)

Free videos, tutorials, and eLearning

- [Tutorials for RobotStudio](#)
- [Tutorials | ABB Robotics](#)
- For questions about the education package and/or technical questions about the education cell please contact your local ABB representative or visit [website](#)

ABB