STEM Education & Workforce Development

“STEM is the future of workforce development in advanced manufacturing, and having an effective program will allow the city, region, state and nation to compete on a global stage.”

—Superintendent, Miami Valley Career Tech Center
INVESTING IN A BRIGHTER FUTURE

In a time of rapid industry growth, enabling sustainable workforce development and providing competitive career pathways for students are both vital and challenging. Yaskawa Motoman is committed to addressing these critical needs with innovative products, curricula, training certification and services for education and industry.

Together with the educator community and our YMEC partners, we are creating new and better workforce models and STEM (Science, Technology, Engineering, and Mathematics) educational opportunities to support job creation, advance scientific discovery, enhance manufacturing capabilities and drive democracy and economic growth.

HARDWARE

STEM Robotics Platform
- Designed for education and training programs in advanced manufacturing and robotics
- Ideal for classrooms, labs and training centers
- Teach robotics with the same equipment used in factories
- Complete, modular packages with options for building custom platforms to fit curriculum and room layout
- Speed limited to 25% for safety
- Industrial-grade components and comprehensive academic tools
- Welding and material handling versions available
  - The material handling platform features the MH6F or MH12F robot, gripper package, air compressor, lightweight cart, robot casters, polycarbonate panels and instructional tools
  - The welding platform features the MH12S robot, Miller weld package, digital weld interface, Touch Sensing for seam finding and safety enclosure

MotoSim® Touch
- PC-based offline programming environment and robotics simulation tool
- Designed specifically for K-16 schools, training organizations and educational research institutions
- Simulates a fully functional production environment
- Provides ability for student to toggle between a virtual pendant or a hardware pendant
- Robot programs can be moved from the simulation environment to the classroom robot

SOFTWARE

MotoSim®
- Comprehensive software enables accurate 3D simulation of robot cells
- Optimize robot and equipment placement
- Collision detection, reach modeling and cycle calculations
- Accurate virtual testing and offline programming
- Virtual display of actual programming pendant interface
- INFORM programming language, system configuration functions and condition file editing

Yaskawa Academy Learning Management System (LMS)
- Online curriculum for best-in-class, skill-based robotics education
- Comprehensive training tool for classroom, lab, advanced manufacturing training and industrial certification programs
- Accessible via standard browsers for secure, 24/7 access
- Equivalent to 30 hours of classroom experience
- Text, visuals and audio narration to support different learning styles
- Integrated reviews and exercises to enhance learning
- Easily manage courses and track student progress

CERTIFICATION

MERIT Program (Motoman Endorsed Robotics Instructor Training)
Universities: Robotics industrial certification program for undergraduates and adult education
Industry: Comprehensive, skill-based certification for employee and regional workforce development
- Enables schools to offer best-in-class robotics education and career pathway training programs
- Instructors can be certified in more than 75 different courses
- Industry-recognized training model, complete curriculum, dedicated advisor and annual program reviews
ADVANCING WORKFORCE DEVELOPMENT

Today, many students leave high school or college unprepared for career success in high-demand fields like advanced manufacturing and robotics, even while the industry faces a severe shortage of skilled workers. Despite this clear need, both schools and manufacturers often face daunting challenges in attempting to implement effective STEM education, career pathways and training programs.

Yaskawa Motoman is addressing this need with dedicated curricula, hardware and software tools, and programs to deliver real-world industrial experiences in a classroom environment. We believe that successful workforce development and sustainable economic growth depend on close alignment of STEM education, certification and training with the needs and expertise of industry leaders.

“Since its founding in 1915, Yaskawa has delivered breakthrough innovations to help customers increase efficiency, improve quality, boost productivity and achieve outstanding ROI.”

“Yaskawa Motoman was very supportive in helping me design the best system for my needs and goals. We use the equipment at the undergraduate and graduate levels for research and projects. It’s a great learning platform for students—they love working with the robot and its software, and some have gone on to jobs with robots and automation thanks to the experience they gained with Yaskawa Motoman products.”

—Pierre Laroche
Associate Dean, College of Engineering, Florida Institute of Technology

“Students use the Yaskawa Motoman products virtually every day in our electricity and industrial mechanics programs, and we are looking to add a welding simulator as well. Our objective is to prepare students for college, or to gain positions in their desired careers, and Yaskawa Motoman has made them more marketable.”

—Ted Verhoff
Career Technical Advisor, Vantage Career Center

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El Marques, Querétaro, México
Diadema, São Paulo, Brazil

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