

PROFILE

NAME: Randolph Community College

LOCATION: Asheboro, NC

FOUNDED: 1962

WEBSITE: www.randolph.edu

CHALLENGE

Randolph Community College needed to enhance its robotics course to provide students with real-world manufacturing automation skills while staying within the program budget.

SOLUTION

CIMTEC's Education System with four Epson's T3 All-in-One SCARA Robots and RC+® Development Software provides industrial functionality and ease of use, all with a space-saving design. This system, provides students with hands-on experience needed to develop the skills and technical edge required to join tomorrow's industrial automation workforce.

Meeting the Demand for Workers Skilled in Mechatronics

Epson Robots Give Real-World Industrial Robotics Experience to Students at Randolph Community College

With the automation trend in manufacturing rapidly increasing, education must keep pace, training the next-generation on cutting-edge mechatronic system technologies that include electrical, industrial and manufacturing. As the industry breaks down silos in these areas, Randolph Community College is ensuring students have skills across those disciplines, focusing on preparing them for mechatronics roles that require electrical, mechanical, robotics and software skills.

The college's curriculum includes an eight-week industrial robotics course based on real-world applications. The college subsequently needed a robot that could provide students with real-world manufacturing automation training. In addition, they needed to find a robot with speed, precision, and repeatability for its lab with the flexibility to allow multiple students to gain hands-on experience with pick and place, a very common manufacturing application used across multiple industries.

Like most schools, the college had to work within budget constraints, finding a high-value solution that would provide the greatest number of students robotics lab time and hands-on experience.

"The Epson T3 SCARA robot allows us to test new ideas – we aren't locked into one setup. It fits perfectly into our course teaching mechatronics that blends mechanical, electrical, and software. It's the direction that the industry and education are headed."

- WESLEY MOORE, DEPARTMENT HEAD,
INDUSTRIAL PROGRAMS, RANDOLPH
COMMUNITY COLLEGE



Finding the Right Solution for the Right Budget

With guidance and expertise from authorized Epson distributor CIMTEC, Randolph Community College chose robots from Epson, the #1 SCARA robot manufacturer in the world, for the course. CIMTEC designed the T3 Education System, featuring Epson's ultra-low-cost, T3 SCARA robot, as a high-value, turnkey solution for schools that need to train students on manufacturing automation but often have a limited budget for equipment.

The T3 delivers numerous benefits for Randolph Community College students' coursework in industrial robotics. Unlike the typical SCARA, the T3 has an all-in-one design with a built-in controller. This feature reduces space requirements and simplifies setup as the controller, amplifier and cabling are all housed in the T3's base. The robot also runs on either conventional 110 V or 220 V and requires no battery for the encoder.

The T3 uses Epson's intuitive RC+ Development Software which makes it easy for students to learn to program the robot and complete the course by writing a simple pick-and-place program. As all Epson robots utilize the Epson RC+ Development Software, students who learn how to program with the T3 Education System will be able to program all robots in the Epson lineup, giving them a great advantage when joining the automation workforce.

Epson's RC+ also comes with a built-in 3D Simulator, which enables students to program their work cells, upload CAD models, test different end-of-arm tools or add additional components, such as a table, feeder or guarding, all in real time.

Turnkey Solution Delivers Real-World Automation Application Experience

As a fully-functional industrial robot, all work with the Epson T3 is truly applicable in the real world. The T3 is used for simple applications such as pick and place, assembly, parts handling and dispensing applications in leading industries ranging from automotive and medical development to lab automation, consumer electronics, electronic components and industrial. Many alternative solutions used in similar courses only provide students with demonstrations or concepts rather than first-hand robotics experience.

“We talked to several community colleges in North Carolina, South Carolina, and Virginia, and we found that there wasn’t a turnkey solution for robotics education. The T3 Education System addresses our education customers’ automation needs and provides great value – we were able to provide four Epson robots for the cost of a single robot from a different manufacturer, and Epson offers many more features”

- DANIEL HOOD, SALES ENGINEER, CIMTEC

Achieving Excellence Through True Partnership

Implementing the T3 Education System at Randolph Community College was a cooperative effort. Educators worked with CIMTEC to define their requirements and customize the solution to meet their needs. CIMTEC also provided curriculum training for instructors and ongoing service and support for the system.

Even though the T3 Education System was implemented during the pandemic in 2020, CIMTEC, with Epson's help, was able to remain flexible through delivery, startup and post deployment follow up. Wesley Moore, Randolph Community College's Department Head of Industrial Programs, commented, “We had a lot of decisions to make, but I know CIMTEC had my back. They helped us through the process. It wasn't a one-time sale, and ‘see you later.’ They are really there for the long haul.”



Ready to Join the Automation Workforce of Tomorrow

The T3 Education System has given Randolph Community College the ability to make hands-on training practical for a class of 20 students or more. The high-value system checks all the boxes for the industrial robotics course on a technical level and enables the school to implement multiple cells, accommodating lab time for each student.

The system also provides Randolph Community College with options for the future, such as expanding its program to include machine vision. The T3 can easily add Epson's Vision Guide to provide that functionality. The education system's work cells also have a flexible design so that machine vision can be implemented in the future.

The need for skilled mechatronics technicians is becoming increasingly critical as more and more companies expand their manufacturing processes to include automation components. Courses such as those offered at Randolph Community College are vital to training the workforce of tomorrow. CIMTEC and Epson are ready to provide the systems to ensure students are well-trained and confident to take their place in an automated world.