

FSCJ Opens Florida's First Advanced Semiconductor Training Lab Developed by Festo to Address National Workforce Gap

JACKSONVILLE, Fla. – Thursday, September 24, 2026 - On Monday, September 21st, Florida State College at Jacksonville (FSCJ) hosted a ribbon-cutting ceremony to mark the official opening of Florida's first advanced semiconductor workforce training lab developed by Festo Didactic, a global leader in technical and industrial education. Supported by a \$2.3 million State of Florida capitalization grant, the cutting-edge installation features Festo's Semiconductor Learning Factory, designed to close the critical STEM and semiconductor skills gap in the United States.

The strategically critical U.S. semiconductor industry faces a severe talent shortage. According to the Semiconductor Industry Association (SIA), of the 115,000 new jobs projected to be created in the semiconductor sector by 2030, roughly 58% risk going unfilled, with technicians accounting for 39% of those unfilled roles. The new facility at FSCJ equips students with hands-on Industry 4.0 competencies and establishes an essential workforce pipeline that translates directly to real-world fabrication facilities ("fabs").

"Our strategic objective is to provide the greatest opportunities for students and our local community," said FSCJ President Dr. John Avendano. "Having the first-of-its-kind advanced manufacturing and semiconductor training system in Florida will give our students an immediate competitive edge in the workforce. This is a truly exciting addition to our Advanced Technology Center."

"Fabs play a critical role in semiconductor manufacturing, where the microchips that power today's connected world are produced," said Industrial Engineer and Sales Director for Festo Didactic North America Daniel Rodriguez. "Investing in educational fabs is one of the most effective ways for institutions to attract and retain students and prepare graduates for careers in advanced manufacturing. Strengthening this workforce is essential for sustaining U.S. economic competitiveness."

FSCJ's facility integrates Festo's Capstone Semiconductor Curriculum and Semiconductor Learning Factory to simulate a real fab environment. Students learn important safety measures and personal protective equipment protocol as part of laboratory activities. This hands-on approach allows students to learn without fear of failure or making costly mistakes in a multi-million-dollar production facility. Inside the Learning Factory, students handle delicate silicon wafers with vacuum wands and operate post-photolithography equipment including sophisticated metrology and inspection tools to ensure nanoscale precision. As the first semiconductor training solution of its kind, the Learning Factory provides a data-forward, fully automated experience with true industrial robotics for genuine lab-to-fab exposure.

"We're also thinking ahead when it comes to transferable skills," said FSCJ Dean of Engineering and Technology Dr. Douglas Brauer. "Our graduates will be able to adapt to various automated environments – and they won't be limited to one industrial sector. The skillsets they acquire in our lab translate directly into dozens of technical and operational industries for in-demand roles."

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In addition to the online Semiconductor Learning Factory platform, FSCJ's lab is also powered by Festo's complete Cyber-Physical manufacturing system with 14 workstations. The lab's modular architecture enables cross-departmental collaboration across advanced manufacturing, logistics, information technology and AI programs, while also serving as a hub for regional university partnerships with the University of North Florida and the University of Florida.

"Having worked alongside FSCJ for nearly two decades, our goal was to deliver a solution that directly supports regional industry while meeting state grant priorities. Partnering with Festo Didactic allowed us to create a flexible, highly customized learning factory that teaches both the core automation fundamentals regional employers rely on, and the advanced semiconductor competencies needed for the future workforce," said Director of Education FL for Bluegrass Educational Technologies Steve Cercone.

FSCJ's lab will support at least 15 engineering technology courses with innovative and emerging tech such as MES₄ manufacturing execution software, AI vision inspection, autonomous mobile robotics, as well as integration of the Festo Industry Certification Program (FICP). FICP is organized into levels that allow students to progress from basic machine operation and a solid foundation in mechatronics to complex systems engineering. AI and semiconductor topics are typically integrated into the higher levels of this framework.

As part of its commitment to industry-driven workforce development, FSCJ has been a long-standing Leadership School within the National Coalition of Certification Centers (NC₃), implementing industry-recognized micro-credentials across programs in transportation, STEM, building trades and advanced manufacturing. By combining micro-credentials with hands-on training throughout career and technical education programs, FSCJ continues to create pathways that prepare students for careers in high-demand, technical fields.

"Florida State College at Jacksonville's new semiconductor system represents much more than an investment in state-of-the-art technology, it represents an investment in people, skills and the Jacksonville Community," said Senior Program Manager for NC₃ Lisa Marshall. "With Jacksonville's strategic location and Florida's continued growth in advanced manufacturing and the semiconductor industry, FSCJ is creating an important talent pipeline that provides students with hands-on experience, industry-recognized micro-credentials, and pathways into high-demand, high-skill careers."

About FSCJ

Known as "the community's college," Florida State College at Jacksonville (FSCJ) empowers students to achieve their goals by providing exceptional learning experiences that promote intellectual growth, civic engagement and workforce connections. Serving more than 46,000 students and awarding over 5,000 degrees and certificates annually, the College plays a significant role in equipping and supplying the region's workforce of tomorrow.

Press Images



FSCJ Lab

FSCJ's lab is powered by Festo's complete Cyber-Physical manufacturing system with 14 workstations.



FSCJ Classroom



Dr. Wilm Uhlenbecker

CEO of Festo NAM

Festo Didactic North America

From Industry, for Industry

As a part of the Festo Group, a leading supplier of automation technologies, our direct access to industrial environments and cutting-edge technologies uniquely positions us to develop education and learning solutions.

Festo Didactic leverages its automation expertise to provide comprehensive industrial and technical education solutions. Festo Didactic is committed to providing educators and employers with the hands-on training, digital coursework and blended learning solutions needed to close the STEM skills gap. Our lab equipment, curriculum and certification programs are thoughtfully designed to support various learning pathways and on-the-job training. With 56,000 education customers, and 30,000+ certifications issued, Festo Didactic and its partners are preparing students and employees for the future of work.

Learn more at [Festo.com](https://www.festo.com)