

For immediate release

March 4, 2022

Roane State to develop cyber defense training for manufacturers

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Roane State will play a key role in an ambitious program to establish the Tennessee Valley as the national hub for machine tool research, development and training.

The community college's nationally recognized cyber defense department has received a \$250,000 grant to develop training for businesses that will help protect digital components of next-generation machine tools and manufacturing processes.

The funding is part of a \$5 million grant awarded to the University of Tennessee – Knoxville to address machine tool vulnerabilities. It's called the Southeastern Advanced Machine Tools Network, or SEAMTN (pronounced "see mountain").

Machine tools are used to make parts using discrete processes, such as milling, turning, drilling, and forming, and continuous processes, such as carbon fiber, polymers, and iron/steel.

"Revitalizing the U.S. manufacturing base is a top priority for the federal government," according to a report outlining the SEAMTN proposal. "Because machine tools support both prototyping and production operations for virtually all manufactured products, every commercial and defense manufacturer is a stakeholder."

Professor George Meghabghab, head of Roane State's computer science department, will develop training for businesses to learn how to protect digital manufacturing equipment.

"Manufacturing is becoming more digital," Meghabghab said, "and we have to be able to protect it and make sure everything is safe and secure." That will entail "establishing information security standards throughout the industry, mastering risk assessment and risk management strategies, and reporting cyber intrusion incidents once detected."

"This is a great opportunity for Roane State," Meghabghab added. The college's cyber defense program has been designated a National Center of Academic Excellence by the U.S. Department of Homeland Security and the National Security Agency.

This summer, Meghabghab said the online cyber defense training content will be developed for national distribution and various computer switches, servers and routers will be acquired to support this effort.

Then, manufacturing representatives selected to participate in the training will come to the college's Oak Ridge Branch Campus where they will complete intensive educational modules over the course of five days, leading to specialized certifications.

“Businesses need industry certifications in cyber defense before they can contract to do business with the federal government, particularly with the Department of Defense,” said Deb Miller, Roane State grants specialist.

“Virtually every major weapons system, whether land, sea or air, depends on machine tools and machining technology,” according to the SEAMTN report. The security of these weapons systems and other manufacturing environments is critical to the security of the United States.

Learn more about Roane State’s cyber defense program at roanestate.edu/cyberdefense. Additional information on the Southeastern Advanced Machine Tools Network (SEAMTN) is also available online at seamtn.utk.edu.

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Roane State is a two-year college providing transfer programs, career-preparation programs and continuing education. Founded in 1971, the college has locations in Roane, Campbell, Cumberland, Fentress, Knox, Loudon, Morgan, and Scott counties as well as a branch campus in Oak Ridge. For more information, visit roanestate.edu or call (865) 882-4554. Remember, eligible adults can now attend Roane State tuition-free with the new Reconnect grant. Learn more at roanestate.edu/reconnect.