



## UofSC South Carolina

### INDUSTRY

UNIVERSITY OF SOUTH CAROLINA  
COLLEGE OF ENGINEERING  
AND COMPUTING

### LOCATION

COLUMBIA, SOUTH CAROLINA

### KEY CHALLENGES

- Needed to educate students who were located in multiple academic and military institutions for high-demand technology jobs.
- Needed remote access to hands-on labs and exercises that could scale.
- Funding was limited.

### SOLUTION

- Receive an NSF grant for multi-state community college and industry collaboration use.
- Develop a 2+2+2 program with stackable credentials to increase capacity in the IT job pipeline.

### BUSINESS BENEFITS

- The grant enriches two-year and four-year educational programs with hands-on virtual laboratories and companion material.
- Provides education in high-demand fields such as networking, platform technologies and cybersecurity.
- The project deploys a distributed virtual platform that provides remote-access capability to laboratory equipment via the internet.
- Permits students to combine real-life, practical application with professional-level tools and platforms.

# The University of South Carolina partners with VMware IT Academy to help students learn digital technology skills to fill high-demand jobs

### Who we are

Located in Columbia, South Carolina, the **University of South Carolina (USC)** is a public research learning institution. **VMware IT Academy**, headquartered in Palo Alto, California, is a global, public-private partnership with institutions around the world. VMware IT Academy helps students lead in their digital future by teaching the applications of VMware technology. This fosters career development, creates a pipeline of diverse talent and helps to lead a positive change around the world.

### Educating people for digital jobs

North and South Carolina (the Carolinas) share a common pattern of growth and an increased demand for IT labor. The number of job postings is fueled by the central role of IT in general business operations and the growing number of technology and manufacturing companies across the Carolinas. Columbia, South Carolina, and Charlotte, North Carolina, are two major cities with large demands for IT professionals. Yet while located less than 100 miles apart both cities lacked adequate access to hands-on labs and a private learning environment for students to learn digital skills.

### Making the impossible possible

By securing a National Science Foundation (NSF) grant for Multi-State Community College, the university and an industry collaboration, the sister states built an academic, distributed virtual cloud that enabled 10 academic institutions—and military learners at Fort Jackson—to remotely access and complete hands-on lab exercises. The NSF grant project included building lab resources for various public-private educational programs, including VMware IT Academy.

#### LEARN MORE

Discover more about how VMware IT Academy students can align with the leader by visiting us at [www.vmware.com/company/research/it-academy.html](http://www.vmware.com/company/research/it-academy.html).

**“As a national ATE center, the team would support systemic reform, broad outreach, community building and leadership among educational institutions, industry professionals, trade associations, educators and practicing technicians.”**

DR. JORGE CRICHIGNO,  
ASSOCIATE PROFESSOR  
COLLEGE OF ENGINEERING  
AND COMPUTING

#### Collaborating at its best

This project is an example of true collaboration. It reinforces the educational links of common needs between sister states in a unified manner, addressing the demand that is reflected in regional employment statistics. Both cities participate in deploying and testing the distributed platform and virtual laboratories, with the potential to scale and eventually deploy nationally.

The lab resources, funded by the NSF grant, include both industry and open-source career technical education (CTE) and academic research labs for community college and undergraduate students. This powerful partnership includes USC with partners Stanly Community College (SCC) and Network Development Group, Inc. (NDG). USC provides research and undergraduate academic support; SCC provides two-year associate degrees, CTE and vocational train-the-trainer support; and NDG provides online web resources for hands-on lab resources.

Also included are high-speed network protocol labs, high-speed network performance labs and intrusion detection labs. This allows a team of doctorate students the ability to help government network professionals, undergraduate, community college and military learners develop networking and cyber-knowledge skills.

#### The future looks bright

Looking ahead, we anticipate expanding this project to include more lab libraries, research outcomes and industry programs. The project is funded for a three-year period—July 1, 2019, through June 30, 2022. Conceivably, based on the encouraging results of this first-year pilot, the team expects the project to be continuously supported and become the cornerstone of a national center for advanced technological education (ATE).