

Wichita State University advances innovation with applied learning



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WICHITA STATE
UNIVERSITY

NetApp is an on-campus partner for students and technology industries.

The campus of Wichita State University on the Kansas plains is an innovation jewel in plain sight. Thanks to its proximity to aeronautical industry giants and supporting civil and defense companies, the university has always been a model for industry cooperation.

Recently, the school has accelerated its business-education partnerships and diversified them to include a broader range of industries and technologies. The need to advance research and digital transformation has created opportunities for the university, students, and partner companies like NetApp that require a skilled workforce.

**US \$27 million
Wages earned
by students
in 2021**

“NetApp is an anchor for digital transformation and data fabric on the Wichita State University Innovation Campus.”

Tonya Witherspoon
Associate Vice President of Industry Engagement and Applied Learning, Wichita State University

NetApp has enhanced its commitment to the school by building a new facility on WSU's Innovation Campus for development and testing of products and support for other partner companies. The investment provides a direct link between NetApp and the future technology leaders attending the school.

Big tech on campus

Once upon a time, 4 years of college could be considered a break from the real world before entering the job market and adulthood. No longer.

The costs of education, industry demands, and the need for workforce-ready graduates have put the brakes on the 4-year vacation and accelerated the partnership between academic research and industry. Wichita State University is a red-hot example of students graduating with both a degree and a résumé.

“The speed of technology is so fast that there can be a gap between curriculum and industry,” said Tonya Witherspoon, associate vice president for Industry Engagement and Applied Learning at WSU. “The applied learning program and our industry partners like NetApp help us bridge that gap and create relevant student experiences.”

The efforts pay off. Literally. More than 5,000 students participated in applied learning positions in 2021, earning \$27 million from more than 500 different employers.

The seeds for the transformation of the university to a leader in applied learning in technology were sown on a golf course. In 2012, an 18-hole course on the edge of campus was repurposed as an Innovation Campus. Private industries began investing in buildings and programs to support cooperative

research and development. Some of the biggest names in aerospace and defense have a presence on the campus—Airbus, Dassault Systèmes, Spirit AeroSystems, Textron Aviation.

More than 50 research labs throughout the WSU campuses are tackling other areas of research and development, from biometrics to cybersecurity. Tying all of these efforts together is the demand for reliable data storage and data management. NetApp® solutions span the campus sponsorships.

Applied learning

NetApp has built a completely new Innovation Campus facility, opening in the summer of 2022. The 168,000-square-foot building is designed as an open office plan, with more than 600 workstations and a large data center to be used for product development and testing. NetApp employees are already working out of a temporary facility on campus in support of the effort.

Testing and certification of NetApp E-Series storage arrays is conducted at the WSU branch before they are installed in customer locations. At any one time, more than 100 WSU students work at part-time NetApp jobs in testing, quality control, and support.

Chek Tan, a graduate of WSU, worked at NetApp for 5 years as a student contractor before becoming a full-time employee. He currently leads the E-Series Solutions team that includes the NVIDIA DGX SuperPOD AI Infrastructure E-Series testing and the NetApp AI SuperCluster projects. He considers his undergraduate, hands-on experiences key to his success today.

“I was able to work with real live equipment, understanding how to create reports, run tests on storage systems that no one had even seen before,” he said.



WSU has also responded to the investment by creating a curriculum—an associate degree in cloud computing—that specifically supports the NetApp vision for cloud-first computing.

In the air, on the ground, in the cloud

One unique cooperative effort is between the university and the Department of Defense, advancing the practice of the “digital twin”—the creation of highly accurate digital copies of military assets that exist in the physical world.

The most advanced aircraft and weapon systems today are highly specialized data-rich machines. But many older, legacy systems are still in use that require new parts and new processes. The B-1 bomber, for example, is a 50-year-old aircraft still in use today.

Although cutting-edge technology has been part of the military supply chain for decades, industry OEMs focus on the current models. Inadequate support for older models can hamper military readiness. At WSU, aircraft are disassembled, scanned and reassembled into digital versions that can be manipulated. That process takes a lot of data, and NetApp is supporting the effort.

John Tomblin, senior vice president for Industry and Defense Programs at WSU, explained that thanks to NetApp technology the university has made it possible for companies to respond to DoD bids with new parts requests that might otherwise have gone unfilled.

“Digital twinning extends the life of assets where parts can be made, parts can be sourced, they can be 3D printed if necessary,” Tomblin said. “NetApp technologies are providing the secure, high-performance storage needed to execute the twinning initiatives.”

Other areas of civilian and defense research that are benefiting from NetApp technology include artificial intelligence and machine learning simulations for crash testing and missile defense. Running simulations and processing predictive algorithms demands high-performance computing and the storage to back it up. NetApp delivers the underlying storage infrastructure and the management capabilities to allocate resources in multitenant environments and hybrid clouds.

Super-duper developments

According to Tonya Witherspoon, the rich aerospace heritage of Wichita and WSU has laid the groundwork for other data-intensive innovations. Since 1985, the National Institute for Aviation Research (NIAR) has been the centralized research institution on campus.

Witherspoon leads Wichita State’s National Institute for Research and Digital Transformation (NIRDt), a new institute that is applying the same cooperative principles as NIAR.

“As engineering and manufacturing have moved forward in the digital age, the types of technologies that we are applying to aviation and aerospace are the technologies that are benefiting every industry,” she said.

The goal of NIRDT is to develop applied learning opportunities and applied research for WSU's students, using digital transformation technologies across all industries.

To support this endeavor, NetApp is working with one of its partners to expand the high-performance computing capabilities available to campus labs and partners. Although it's still in the early stages of development, an HPC environment would dramatically improve the responsiveness of researchers and allow them to take on more complex projects. Ongoing improvement in facilities and partnerships mean that everyone wins—students, industry, the university, and the community.

"NetApp is an anchor for digital transformation and data fabric on the Wichita State University campus," Witherspoon said.

"NetApp is bringing all of their engineering prowess and their alliance partners right on our campus to help our students and our faculty dive deep into research and technologies that are changing the world."



NetApp and WSU
For more information



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About NetApp

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As a cloud-led, data-centric software company, only NetApp can help build your unique data fabric, simplify and connect your cloud, and securely deliver the right data, services and applications to the right people—anytime, anywhere. To learn more, visit www.netapp.com



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