The Future is Funded for Navajo Technical University's Center for Advanced Manufacturing

Advanced manufacturing major Aaron Sansosie of Nazlini, AZ operates machinery in NTU's Center for Digital Technologies. Student research projects will increase with the construction of a Center for Advanced Manufacturing.

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CROWNPOINT, N.M. — Navajo Technical University was awarded a $3.5 million grant from the National Science Foundation to establish the NTU Center for Advanced Manufacturing. The funding ensures a solid foundation for the Center's future, whose focus will include enhancing education, fostering research, and stimulating economic development.

"The goal for the Center is to provide opportunities for students so they can learn and gain experience in a working environment," explained director of NTU's Center for Digital Technologies H. Scott Halliday, who was instrumental of the development of NTU's Bachelor of Applied Science degree in advanced manufacturing. "We also plan to elevate the Center's research capabilities, and provide metrology and testing services to industry and other institutions."

Halliday expects the Center will appeal to visiting researchers, which he hopes to leverage into increasing NTU's academic partners. Several universities have already made a commitment to collaborate with NTU, including: University of Nebraska's Mechanical and Materials Engineering department; the University of Utah's Multiscale Mechanics & Materials Laboratory; the Colorado School of Mines; and Montana Technological University. The Center has also collaborated with the University of New Mexico's Indigenous Design and Planning Institute through NTU's building information modeling program.

NTU's new Center's emphasis will be on 3D modeling and simulation, polymer and metal additive manufacturing, and advanced manufacturing post processing techniques, but it will also focus on materials testing and characterization, and metrology, or the science of measurement. NTU was awarded a $1 million grant by the U.S. Department of Commerce with matching funds of $1.5 million from the Navajo Nation to build a metrology and materials testing center within the Center for Advanced Manufacturing, which Halliday plans to make a certifiable lab to assist in student learning.

The Navajo Nation's Division of Economic Development's commitment of $1.5 million toward the Center hopes to generate 500 high-tech, high wage jobs in partnership with industries like Boeing Corporation's Metal AM Technologies in El Segundo, California. NTU is also looking to bring in opportunities with companies such as Sigma Labs, LLC in Santa Fe, NM, Optomec, LLC in Albuquerque, New Mexico, and V&M Global Solutions, LLC in Ojo Caliente, New Mexico.

Marcie Vandever of Thoreau, NM operates the Faro Tracker Arm while conducting measurements of a 3D printed object. Metrology will be an important focus of NTU's new Center for Advanced Manufacturing.

With the funding secured, NTU has started the process for a new advanced manufacturing building. NTU would like to break ground in early spring 2019 with the hopes the Center will be functional by the end of the year. In addition to contributing a new building for the Center, the NSF funding will assist with the development of a new certificate, associate of applied science degree, and 4-year degree in mechanical engineering.

For more information about the Center for Advanced Manufacturing, contact H. Scott Halliday at hhalliday@navajotech.edu.