

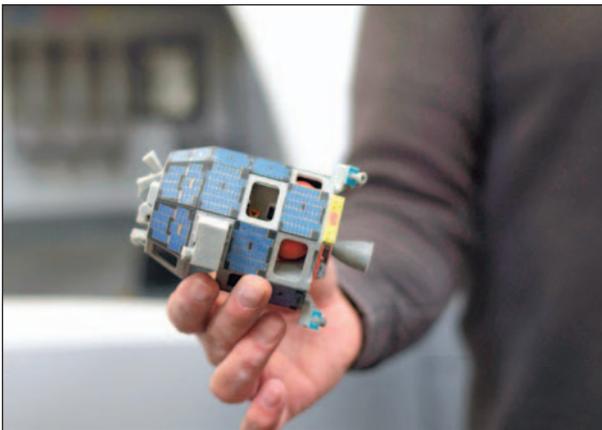
# METAL IN MIND



Cayla Nimmo/Independent

Scott Halliday explains how each 3-D printer works and the pros and cons of each during his class at Navajo Technical University in Crownpoint Tuesday.

## NTU to expand manufacturing, start industry on Navajo



Cayla Nimmo/Independent

Scott Halliday shows an example of what students can create using the 3-D printer in the Fabrication Lab at Navajo Technical University in Crownpoint Tuesday.

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**C**ROWNPOINT — Authorities at Navajo Technical University want to start a manufacturing business at the Crownpoint campus and develop a new industry on the Navajo Nation.

NTU President Elmer Guy said on Thursday his staff is preparing a budget proposal to present to the Navajo Nation Investment Committee. They want to model the project to follow the line of Sigma Labs, a Santa Fe company that builds metal products for customers in areas such as aerospace, health care and automotive.

“We want to purchase a metal printer and produce parts for any number of companies and government agencies, including the U.S. Department of Defense. Parts for auto motors. Print medical supplies. It’s really

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## NTU manufacturing

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endless what you can produce with that kind of printer,” Guy said. “I think this is the job of the future.”

NTU established the digital manufacturing program in 2011. Over the years, an advanced manufacturing grant from the Kellogg Foundation has helped develop the program and NTU purchased laser scanners and a smaller 3-D printer that have allowed students to get their hands on 3-D printing projects for NASA. For example, they built a 3-D prototype of the Vesta Asteroid that NASA uses as a model during conferences.

With the aid of the sophisticated 3-D printer and laser scanning technology, students have also produced 3-D lunar maps and lava tube maps of El Malpais. They have also worked in film production, creating models such as monster figures that were later scanned and digitalized for animation for the movie “Monster Slayer.”

With a more sophisticated 3-D metal printer and more space at the NTU Center for Digital Technology Fab Lab, the university can start producing parts for numerous industries.

NTU Center for Digital Technology Fab Lab Director H. Scott Halliday said NTU officials have already met with the Promise Zone for advanced manufacturing on the Navajo



Cayla Nimmo/Independent

Adriane Tenequer listens to her professor Scott Halliday explain the difference between the 3-D printers available at Navajo Technical University in Crownpoint Tuesday.

Nation and received commitments for the potential funding of \$1.5 million for a new building. The Promise Zone is a federal initiative started during President Barack Obama’s administration that offers funding opportunities and tax breaks to businesses that hire unemployed workers and partner with underserved communities.

There is also the possibility of an additional matching amount of \$1.5 million for a new building from the Navajo

Nation Division of Economic Development. A new building could support additional technologies such as sensor development and electrical fabrication, Halliday said.

“We also need a 3-D metal printer to work with Sigma Labs, so we can cut down our learning curve and increase production,” Halliday said. “That will increase our capabilities for contracting and we expect to leverage that for a four to five machine production facility here on Navajo.”

### New industry

The project has the support of Navajo Nation President Russell Begaye and Vice President Jonathan Nez, who are looking for new industries on the reservation.

Citing the closure of the Navajo Generating Station power plant, which is scheduled to happen 2019, Nez said the tribe “must begin preparing for the inevitable end to resource extraction as the primary economic provider for the tribal government.”

“Declining oil prices, strict U.S. (Environmental Protection Agency) regulations and the downturn in the coal industry have negatively affected Navajo royalty payments, taxes and other economic sources that once provided consistent annual income,” Nez said in a news release. “The Navajo Nation is partnering with Navajo Technical University to provide advanced manufacturing while simultaneously providing students opportunities in such lucrative fields electrical engineering, digital manufacturing, 3D modeling, and more.”

Nez met with NTU officials and 13 other federal partners at NTU in December and discussed collaborative projects, including the manufacturing project at NTU, and a proposed solar project for the former Bennett Freeze area and community land use plans — both of which are eligible for a Rural Business Development Grant, according to the news release.