

# Supporting Army Readiness

through a robust digital additive manufacturing supply chain



The AMNOW program was launched in 2019 with a mission to establish and demonstrate a robust capable digital manufacturing supply chain to support Army readiness. Executing that mission required elevating the capabilities of the supply chain; elevating additive manufacturing (AM) processes as a reliable technology; visualizing the supply chain back to the Army; and capturing production data as a contract deliverable.

As the program progressed, many suppliers have been engaged to make that mission a success.

An employee-owned company, Penn United Technologies, Inc. is one of those suppliers. Penn United was founded in 1971 as a small tool-and-die shop near Saxonburg, Pennsylvania. They have grown from a one-service shop into a high-tech manufacturing operation with more than 700 employee owners offering a wide variety of manufacturing solutions. ([pennunited.com](http://pennunited.com)).

Combining Penn United's AM technology offering with precision traditional manufacturing and machining made them well suited as an early supplier partner for AMNOW.

Penn United has been part of the AMNOW program since February 2020. During that time, they have engaged in nine projects and delivered more than 320 parts.

Because of their involvement, Penn United has obtained several key benefits.

### 1. Expanding Material Capabilities

Penn United has expanded its material capabilities with two additional aluminum and Inconel alloys, materials they had not used prior to involvement in AMNOW. The experience has also paved the way for expanding into titanium.

### 2. Elevating the AM Process

Penn United had a robust internal additive parameter development process in place before they were involved in AMNOW. Through AMNOW project execution, they were able to demonstrate and further validate that process.

### 3. Enhanced Data Collection

The AMNOW program requires process data to be collected as part of a digital deliverable and the program provided an IoT device that enabled automated data collection. Using this device to efficiently capture data has helped Penn United better understand their AM process, and support improvements in their ability to prevent or correct process issues.

*"By participating in the AMNOW project, we were given the opportunity to develop new materials and ultimately expand our capabilities."*

- Jake Jones  
Penn United Technologies,  
Project Manager

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