

# DOES Unveils TITAN-AI Pilot for Secure, Smart API Manufacturing in the U.S.

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WEST MELBOURNE, FL, UNITED STATES, October 29, 2025 /EINPresswire.com/ -- [Defense Operations & Engineering Solutions](#) ("DOES") today announced [TITAN-AI](#), a pilot-phase smart-

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TITAN-AI isn't just a manufacturing upgrade, it's a national-security initiative bringing critical pharmaceutical production back to the U.S.”

*Aaron Sneed*

manufacturing program that integrates artificial intelligence, advanced automation, and GaN-based edge computing to enable secure, traceable Active Pharmaceutical Ingredient (API) production in the United States. Built for end-to-end data integrity and operator-in-the-loop control, TITAN-AI combines advanced process control (APC) with real-time sensing and analytics to stabilize runs and maintain a complete audit trail for regulated environments.

“The COVID-era shortages made clear how brittle global supply chains can be,” said Aaron Sneed, Founder and CEO. “TITAN-AI is a national-security approach to manufacturing—uniting AI, advanced electronics, and ethical production to return life-saving ingredients to domestic facilities while creating high-tech jobs on Florida’s Space Coast.”

## Why it matters

U.S. health security depends on domestic, resilient API manufacturing. TITAN-AI addresses off-shore dependencies by pairing predictive analytics with process analytical technology (PAT) and edge control, designed to support 21 CFR Part 11 data practices and cGMP-aligned operations (design intent).

## How it works

**Edge intelligence:** GaN-based TITAN electronics—heritage from defense/aerospace—deliver high-speed signal processing at the edge to instrument and control reactors with sub-millisecond responsiveness.

**Predictive quality:** Models detect process drift, recommend adjustments, and support APC set-point changes under human supervision.

**Digital traceability:** Secure data pipelines maintain an immutable record of materials,

parameters, and deviations for faster investigations and continuous improvement.

## Compliance by design

The operating model emphasizes data integrity, export/CUI safeguards, and human accountability, aligned with DOE's governance artifacts: Technology Control Plan, Code of Ethics, and Ethical Use of AI. TITAN-AI is a manufacturing pilot; it is not a medical product and does not imply regulatory approval.

## Economic impact

As the pilot scales, DOE is targeting:

1. Meaningful reduction in reliance on imported APIs through modular, domestic capacity.
2. >40% shorter lead times (targets) via predictive scheduling and automation.
3. Lower waste and energy use (targets) through continuous, data-driven optimization.
4. Skilled Space Coast jobs across manufacturing operations, data engineering, process control, and quality—reinforcing DOE's Workforce Uplift plan.

## What's next

DOE is preparing technical briefs for partners and regulators detailing the TITAN-AI control loop, digital lineage, and human-over-the-loop gates. Collaboration opportunities span biomanufacturing, continuous manufacturing, and advanced PAT/APC deployments across U.S. facilities.

## FAQ

### What is TITAN-AI?

A pilot-phase smart-manufacturing system that integrates AI, automation, PAT, and GaN-based edge computing to improve control, monitoring, and traceability in API production.

### Is TITAN-AI FDA-approved?

No. TITAN-AI is a manufacturing pilot designed to support regulated environments (e.g., 21 CFR Part 11 data practices). It is not a medical product and carries no claims about drug safety or efficacy.

### How does TITAN-AI improve resilience?

By pairing predictive models with edge control to anticipate process drift, reduce waste, and maintain a full digital audit trail for quality oversight.

### Where will TITAN-AI be deployed?

Initial work is centered on Florida's Space Coast, with scale-out plans to U.S. facilities and partners.

What jobs will this create?

Skilled roles in operations, data engineering, process control, and quality—aligned with DOES's Workforce Uplift framework.

Aaron Sneed

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