

CAST-IT

Michelle Truitt, ATI

Emergent Metal Casting Technologies (EMCS)

AMC Technology Review

June 24-25, 2026



Overview

- **Needs and Benefits**
 - Short Term Benefits: Deliver cast parts when the warfighter needs them
 - Long Term Benefits: Improve the supply network to deliver high quality, cost-effective parts with a mitigated lead time
- **Progress**
 - Reverse engineering efforts
 - Assistance requests
 - Should cost analysis
 - Improved acquisition redesign efforts
 - Modernization
- **Transition**
 - Casting quality tips
 - Workforce development through field work and virtual/in person seminars (please contact for more information)
 - DLA Enterprise Cast and Forge (DECAF) Database
 - Standard text objects added to DLA Casting's Purchase Order Text
 - Should cost expertise and algorithms

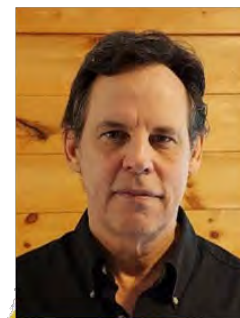
CAST-IT Team



Gary Burrow



Dave Poweleit



Greg Sprouse



Mike Gwyn



Michelle Truitt

Needs

- DOW, DLA, and the Warfighter need castings whose procurement can be hindered, leading to long lead times, limited availability, and raised costs.

Benefits

- The objective of the CAST-IT team is to mitigate and navigate these issues through subject matter expertise, industry expertise and networking capacity, as well as through modernization efforts such as Digital Copy Overlays. Ultimately resulting in improved supply networks, cost savings, reduced lead times, and improved quality.



Milestones/Tasks

- In Progress
 - Workforce Development-70%
 - Should Cost Analysis- 51%
 - Unawarded PRs- 35%
 - Assistance Request-10%

Technical Progress

- Workforce Development
 - In Person Seminars
 - Training seminar conducted at DLA Richmond in June 2025
 - Two training sessions conducted; 55 attendees



Technical Progress

- **Workforce Development**
 - Training seminar conducted at DLA Columbus November 2025
 - Two training sessions conducted ; 43 attendees
 - Toured Fisher Cast Steel; 12 people attended



Technical Progress

- **Workforce Development**

- Training seminar conducted at Picatinny Arsenal December 2025; 30 attendees

"Thank you for all your assistance in bringing the Casting Class to Picatinny this week, it was great. Mike and Gary were exceptional instructors – they were highly knowledgeable, engaging, and answered so many of our questions; our students really appreciated the class"

Technical Progress

- **Workforce Development**
 - **In Person Seminars**
 - Training seminar conducted at DLA Columbus March 2026
 - 26 attendees
 - Toured Walor Forge; 11 people attended



Technical Progress

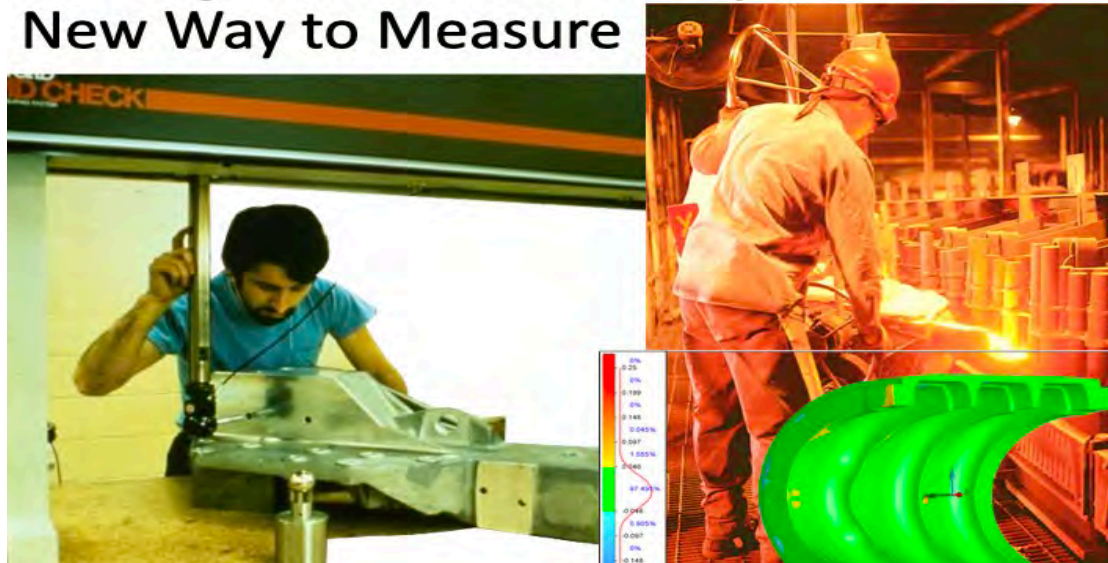
- Workforce Development
 - Bus Trip
 - Richmond Bus trip conducted April 2026
 - 18 attendees
 - Toured of Danko Arlington Foundry in Baltimore, MD



Technical Progress

- Workforce Development
 - Webinars
 - Mike preparing to conduct a webinar on Digital Copy Overlay

Casting Dimensional Compliance: New Way to Measure



Technical Progress

- Should Cost
 - 45 Should cost have been completed
 - Which equated to \$126,399.22 in savings



Technical Progress

- Unawarded
 - Assisted the Valve team in identifying 11 castings in no bid list.
 - Greg has working to identify castings in the DLA Aviation No Bid List.

Technical Progress

- Assistance Request
 - Team has worked 28 assistance request the past year.
 - Assisted in locating tooling
 - Assisted in finding sources
 - Assisted with questions on drawing requirements

Technical Progress-Valves

Problem: Backorder on valves impacting fleet readiness. Large number of no quotes.

Current State: CAST-IT team has been attending meetings with the Valve team at DLA Columbus. The valve team consists of people from NAVSUP, NAVSEA, DLA Columbus, HQ DLA J31, & HQ DLA J34. The list of valve issues were narrowed down into 18 categories. The team has resolved 13 of those categories and continues to work on the last 5. Meetings are still ongoing.



Digital Copy Overlays

Problem: Measurement discrepancies can cause unnecessary first article failures, lengthening lead time and increasing the burden on the casting supplier

Solution: CAST-IT drafted a proposal for a coordinated first article approach. This also includes using 3D modeling overlay technology to verify measurements that are difficult or impossible to measure on a physical object without destroying it

Current State: CAST-IT is working with AFCAT, T38 Engineering, and First Article lab personnel to conduct this project. Team is looking for a tooling source.



In 2021 AMC was instrumental in submitting a white paper to Tinker AFB regarding a change in the specification covering heat treating of light metal alloys under a Boeing requirement that all heat treating for cargo class aircraft needed to be performed at NADCAP approved heat treaters. This proved to be difficult and costly as the light metal alloys need to be straightened immediately after annealing as they start self-aging and become more difficult to impossible to straighten properly. And the fact that many foundries were not located near one of the approved heat treaters. Since the proof of a proper heat treat is the pulling of tensile specimens, which is required to be performed also at a NADCAP approved facility, it would make sense using a non NADCAP heat treaters and performing the testing at the NADCAP test facility would have the same result.

After a few iteration's and working with the advanced engineering group at Tinker AFB the change order was approved with ECO 2022A0101-T on April 18, 2022, and drawing 20145214 was released the same date and designated as NADCAP SPECIAL PROCESSES FOR VENDOR AWARDS.

NADCAP

In a 2026 follow up AMC found multiple foundries are using this specification change with no push back from the customers. One machine shop and assembly supplier on DLA parts was unaware of the change notice and was pushing for the old requirement to be used. AMC was able to intercept this RFP and alert the supplier to the change, and they agreed to drop the requirement saving approximately \$1,000.00 per part on a 250-piece requirement.

Example of castings with contoured shape needing straightening in a go no/gage fixture



Project Plans

- Plan to continue conducting training seminars to educate the workforce.
- Plan to continue providing should cost
- Plan to continue working assistance request
- Plan to continue assisting with no bids

Transition Plan

- Should Cost Tool
- Casting knowledge base expansion via workforce development/foundry tours
- Casting Quality Tips
- Assistance request responses
- Sourcing resources
- Industry conferences
- Enterprise Business System (EBS) tables
- DLA Enterprise Casting and Forging (DECAF) database
- Seminars/Webinars
 - Conducted at sites such as Warner Robins ALC, Ogden ALC, NAVSUP, NAVAIR, RIA Arsenal, and Picatinny



REQUEST FOR QUOTATION (THIS IS NOT AN ORDER)
DLA, DEFENSE SUPPLY CENTER COLUMBUS 3990 EAST BROAD STREET P.O. BOX 16704 COLUMBUS, OH 43216-5010
ITEM DESCRIPTION
NSN or Part Number: 2540-00-937-3477 ITEM DESCRIPTION: BRACKET, SHOCK ABSORBER
A metal casting process was identified as a means to manufacture this item. Tooling is required to produce a casting. For additional information: http://www.dsccr.dla.mil/userweb/aviationengineering/SupplyChainAssistance.asp

Leveraging

- AFCAT (DLA Aviation) and MetaL FACT (DLA Land and Maritime) Teams
- NFFS Integrated Casting Order Network (ICON)
- Forging Defense Manufacturing Consortium (FDMC)
- AMC Online Casting Cost Advisory System (OCCAS) project
- SFSA Digital Innovative Design (DID) and Steel Performance Initiative (SPI) Projects
- DLA Casting Solutions for Readiness (CSR)
- DLA Innovative Casting Technologies (ICT)
- Center for Navy Metalworking
- AFS, NADCA, NFFS, and SFSA



Project Metrics

Description	Baseline	Threshold	Goal	How Measured	Target Date	Progress	How Demonstrated
Workforce Development Events	0	15	20	Count # of seminars	October 2028	14	Record dates, locations, and participant lists
Should Cost Analyses	0	200	250	Track should cost analyses	October 2028	105	Save Should Cost responses
Unawarded PRs Addressed	0	150	250	Count # of PRs by NIINs	October 2028	11	Record NIINs, dates, and assistance provided
Answer Assistance Requests	0	500	600	Count # of responses	October 2028	47	Record NIINs, dates, and assistance provided

Acknowledgements

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CAST-IT

DLA - POC: DLAR.DPR@dla.mil



Problem

- Fragmented supply chains, a diminishing supply base, small order quantities, and the inability to identify when a casting is contained in an NSN all contribute to high costs, long lead-times, and an excessive number of unfilled orders.

Objectives

- Improve DLA's casting procurement agility and supply base to support warfighter readiness by reducing lead-times, eliminating unfilled orders, improving quality, and reducing costs of cast parts.

Benefits to Warfighter

- This project will result in reduced lead times and costs for cast parts by improving the supply chain and addressing real-time procurement problems.

Description of Project

CAST-IT includes experienced casting industry SMEs that reconnect supply chains, identify capable casting suppliers, review DLA technical data packages with castings, and address real-time procurement problems associated with cast items.

Team: ATI, CAST-IT

Milestones / Deliverables

- Provide ongoing support to DLA Aviation and DLA Land and Maritime
- Conduct 4 workforce development metalcasting seminars per year
- Perform at least 40 should-cost analyses per year for DLA
- Address 50 unawarded purchase requests per year
- Improve the acquisition of 25 cast items per year using Better Buying Power principles
- Provide 100 responses to assistance requests per year

