



# Research and Development METAL CASTING



Program Info

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## DLA'S TRANSFORMATION IMPERATIVES

Build Organization Agility Through Our People and Culture

Calibrate Resilient And Responsive Logistics Solutions On Support Of Military Readiness

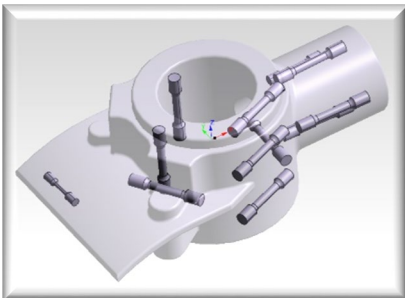
Enhance Support To Integration Deterrence Across The Continuum Of Conflict In Contested Logistics Environments

Lead Logistics Interoperability Across The Department, Allies, Whole Of Government, And Industrial Base

## OBJECTIVE

The Metal Casting program includes work in developing new and improved metal casting capabilities in the areas of inspection, materials, processes, modeling, tooling, prototyping, and design. The implementation of these capabilities will support the foundry industry, where the technology will be tested and in turn, benefit the DLA and DoD.

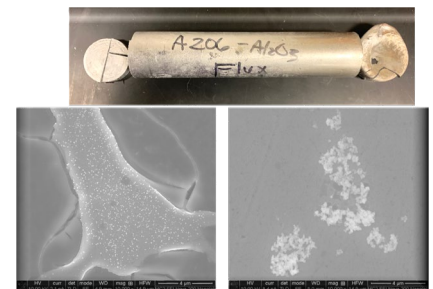
### MODELING & SIMULATION



### WORKFORCE DEVELOPMENT



### MATERIALS



## INNOVATION & TECHNOLOGY

- Technologies and tools for the supply chain to reduce lead times & costs
- Improved manufacturing processes & materials for stronger parts
- Workforce development tools to provide educational resources for the current and future workforce
- Software tools and resources for advanced modeling and simulation to aid designers/engineers



Pouring at MetalTek International,  
Photo: Nutan Chada DLA-DP

## STRATEGIC THRUSTS

- Sustain and improve metal casting manufacturing for parts bought within the DoD
- Exploit the performance and cost advantages of castings by providing design engineers with tools that more accurately predict the capabilities of cast parts



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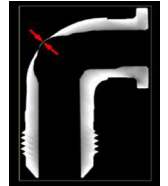


## THE CHALLENGE

- To sustain and improved metal casting manufacturing for parts bought within the DoD in support of the Warfighter. Procurement of parts that contain castings can be difficult due to the complexity of manufacturing, source or tooling identification, obsolete, or antiquated specifications / standards, continued consolidation within the domestic market and competition from foreign sources.



BLU-111 ECP  
Clamshell Casting Conversion



Elbow,  
Flanged 90°

## WARFIGHTER READINESS

### THE BENEFITS



Improved mission readiness and cost effectiveness



Decreased cost and lead times



Improved material availability and quality



Improved manufacturing and sources of supply



Higher strength parts with cast components



Workforce development / education

## INDUSTRY AND WHOLE OF GOVERNMENT PARTNERSHIPS

- Casting Industry Associations
- Commercial Casting Industry
- Research Universities
- DLA Land & Maritime
- DLA Aviation
- U.S Army Research Laboratory (ARL)
- U.S. Navy Naval Surface Warfare Center (NSWC)
- U.S. Air Force Research Laboratory (AFRL)
- Joint Defense Manufacturing Technology Panel (JDMTP)



<https://www.dla.mil/Information-Operations/Research-And-Development/>

## ACCOMPLISHMENTS & ONGOING EFFORTS



Developed tools for casting engineers to design cast spare parts for weapons systems with reliable performance



CAST-IT Team provides valuable resources to DLA and suppliers; assistance requests, should costs, and workforce development seminars



Developed a software interface that allows metal casters to manage all aspects of providing casting components to the DLA, ensuring responsive casting supply chains