DLA
DEFENSE LOGISTICS AGENCY
Established 1961

The Nation's Combat Logistics Support Agency

Research & Development
METAL CASTING

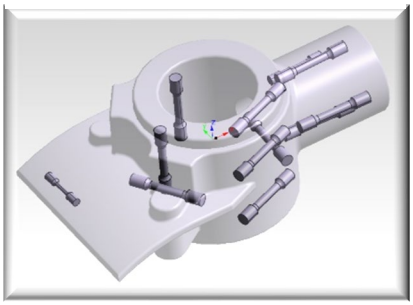
Program Manager: Dean Hutchins

Dean.Hutchins@dla.mil

OBJECTIVE

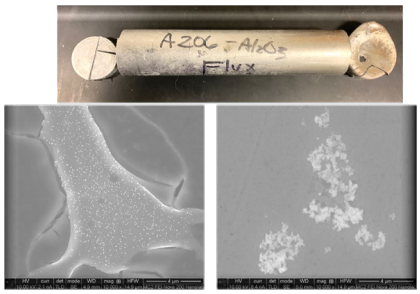
The Metal Casting program includes work in developing new and improved metal casting capabilities in the areas of inspection, materials, processes, modeling, tooling, prototyping, and design. The implementation of these capabilities will support the foundry industry, where the technology will be tested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

MODELING & SIMULATION



WORKFORCE DEVELOPMENT

MATERIALS



INNOVATION & TECHNOLOGY

- **On-demand melting** technology, production methods and tools for short run quantities.
- Advanced and improved materials though the development of robust, **quantitative material datasets**
- **Automate the sourcing of capable suppliers** with DoD needs, ensuring responsive metal casting supply chains
- **Non-destructive evaluation** and testing methodologies to evaluate cast materials.

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

RESEARCH & DEVELOPMENT
METAL CASTING PROGRAM

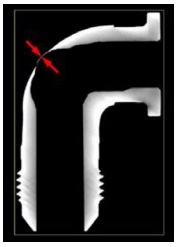
THE CHALLENGE

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

AGT1500 Turbine Blade Need

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
- Lighter weight cast components
- Workforce development / education

WHOLE OF GOVERNMENT AND INDUSTRY 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 (NSW)
- 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 cast components to the DLA, ensuring responsive casting supply chains

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