



Problem

- An obstacle to flexible, energy-efficient short-run quantities in casting is melting of metal outside of the plants' central melting areas

Objectives

- Identify and develop melting furnace options for small batch / on demand melting
- Develop computer program to accurately and quickly calculate the type and amount of master alloys to be added to the melt to create the specified alloy
- Evaluate methods for transferring/laundering the prepared molten metal to the die casting machine shot sleeve

Benefits

- Rapid production for short run quantities
- Enhanced supply chain resulting from a higher number of suppliers

Milestones / Deliverables

- Analysis of melting furnaces for on-demand melting
- Computer program to determine amount of master alloys to be added to the melt to create the desired alloy
- Assessment of transferring/laundering methodologies

University of Alabama – Birmingham, Steel Founders Society of America, Case Western Reserve University, North American Die Casting Association

