



REQUEST FOR AFS RESEARCH FUNDS

PROJECT

Date:

Project Title: *(8 words or less)*

Principal Investigator:

PI Company/Organization:

DIVISION SPONSORSHIP

Sponsoring Committee & Division:

QUAD CHART

The purpose of the Quad Chart is to provide a concise one-chart overview of the proposed research, with an emphasis on clarity and simplicity. This chart should give a basic project summary of why this research is needed and how researchers propose to address this issue. The chart is divided into 4 quadrants, each addressing the key project components; why the research is needed, technical approach, research team, cost, and timing. NOTE: The Quad Chart is intended to be brief and concise. It is recommended that researchers limit text and bullet points in each quadrant to fit the chart onto this one page. The following sections on this form will allow sufficient room for details and discussion.

<p><i>Technical Problem</i></p> <ul style="list-style-type: none"> • Why the research is needed? • Include a brief description of the technical issue that this research will address. • What is the impact of this problem in the metalcasting industry? 	<p><i>Proposed Solution</i></p> <ul style="list-style-type: none"> • How will this research help lead to a solution? • Describe the technical approach. • Potential impact of this research. • Measures of success / deliverables.
<p><i>Impact</i></p> <ul style="list-style-type: none"> • What impact will this have for the metalcasting industry? • Will the primary Impact be on economics, process improvement and efficiency, casting quality, scrap reduction etc. • Estimate metrics when possible 	<p><i>Research Team</i></p> <ul style="list-style-type: none"> • Principal investigators. • Industry support. • Steering committee members

Proposal Cost & Timeline

- Total project cost.
- In-kind contributions.
- Timing.

PROPOSAL

1. Technical Problem / Current State of Technology.

- Describe the challenge or technical need in metalcasting that this research addresses. Why is this research needed? Include bibliography of applicable references as needed to document this challenge.

2. Proposed Solution; Objectives, Deliverables, and Milestones.

- How will the results from this project eliminate, mitigate, or more effectively manage this concern? Describe metrics for principal tasks. Include chart listing each task and deliverable.

Example— Objective; Develop a best practice guide to monitor and test for clean metal after pouring.

TASK & DURATION (MOS)	DELIVERABLE OR MILESTONE
<i>Task 1 – Test Casting Definition</i>	<i>Conceptual design of a test casting converted into a detailed digital format suitable for production of tooling</i>
<i>Task 2 – Lab Validation of Test Casting</i>	<i>Completion of laboratory assessment of test casting tooling prior to foundry trials</i>
<i>Task 3 – Field Trials & Information Transfer</i>	<i>Completion of foundry trials with all documentation to principal investigator</i>
<i>Task 4 – Field Sample Characterization</i>	<i>Completion of foundry trial sample evaluation test results</i>
<i>Task 5 – Best Practice Guide Preparation</i>	<i>Proposed draft practice based on all foundry trial results prepared & reviewed by steering committee</i>
<i>Task 6 – Reporting</i>	<i>Final report formatted for publication in AFS Transactions. PowerPoint presentation for presentation at AFS Metalcasting Congress.</i>

3. Technical Approach and Innovation.

- Identify what is unique in the proposed study which has not been previously explored.
- This narrative should include a brief explanation for each task listed in Section 2. A flow diagram can be used to explain the interrelationships among various tasks, or activities within tasks, or team members.

4. Project Technical Team:

- Identify each team member (principal investigator, industry sponsors, program manager, steering committee, etc.) and their respective responsibilities. Identify the Steering Committee Chair.
- Letter of commitment from all steering committee members confirms the individual and the company commitment to actively participate in the project. Submit form provided on the last page of this document.

5. Timeline;

- Identify the duration of the project. The time overlap among the various tasks can be illustrated by a Gantt chart, or equivalent.

6. Budget & Industry In-Kind support;

- Define the AFS funding required, industry support via in-kind and the total cost budgeted for each task.
- Industry in-kind should represent necessary elements for project task execution. Attendance at steering committee meetings do not qualify as in-kind.
- If additional work is anticipated, Phase 2 funding can be included but must be submitted as a second project. The project funding request will only be for Phase 1.

Task Description	AFS Funds	In-kind	Total
Task 1			
Task 2			
Etc.			
Total Funds	\$	\$	\$

7. Justification and Economic Significance to Industry

- Why is this research important? What impact will it have on the metalcasting industry

8. Technology Deployment Plan

- The goal of all research is to rapidly adopt the results to the foundry floor. Discussion of how the project will help a foundry improve its competitiveness is mandatory. Researcher can use metrics such as reduced scrap, reduced lead-time, increased equipment utilization, increased capacity with existing equipment, etc.

9. Research Agency and PI qualifications

- Justify the selection of the principal investigator, or program manager, based on relevant experience and accomplishments within the project scope.
- Specific technical accomplishments that are generally recognized within the technical community. List only recent project relevant publications.
- Identify the unique institutional facilities and/ or equipment at the research agency that makes this project technically feasible while being economically attractive.

10. Reporting

- All AFS Funded project must submit a quarterly project status report is submitted to the Research Board
- This one-page executive report will list key accomplishments in the last quarter, plans for the coming quarter, and identify any programmatic concerns (e.g., project delays due to deferred foundry trials). Report (or email) will be submitted to the AFS V.P. Technical
- A final report must be submitted after the conclusion of the project in a format suitable for publication in AFS Transactions. See relevant AFS author guidelines.
- The final report must also include a PowerPoint submission for presentation at AFS Metalcasting Congress.

11. Intellectual Property

- Most AFS projects produce incremental improvements to existing casting processes or expand the existing knowledge base. Such projects may not generate patentable IP that has potential commercial value.
- Unless otherwise agreed, for any AFS funded project that produces intellectual property or developments that may lead to a material, product or process with potential commercial value, both AFS and the researcher will co-own and share the Intellectual property and any commercial value. A subsequent agreement may be required to define the value sharing details.
- The goal is that the results of all AFS funded research will be made available to AFS member foundries without prohibitive costs or barriers.

12. Collaboration

- AFS believes that innovation should be easily and quickly applicable to the foundries for use.
- To best accomplish this, researchers and industry experts must work together to identify technical needs and ensure that all funded research can be immediately transferred to the shop floor for use in the metalcasting process.
- All AFS research projects must include an active steering committee of qualified industry professionals with expertise in the research subject and that can assist in moving the project toward a practical and useful conclusion.

SUBMISSION

Submit Research proposals to AFS Technical Department.

*AFS VP of Metalcasting Technical Services
American Foundry Society
Phone: 847/824-0181*



AFS Research Proposal: Committee Approval and Steering Committee

Steering Committee Assignment (Minimum of Two)

CHAIR	Name	Signature
	Affiliation	Date
	Tel	Email
MEMBER	Name	Signature
	Affiliation	Date
	Tel	Email
MEMBER	Name	Signature
	Affiliation	Date
	Tel	Email
MEMBER	Name	Signature
	Affiliation	Date
	Tel	Email
MEMBER	Name	Signature
	Affiliation	Date
	Tel	Email
DIVISION APPROVAL	Name	Signature
	Affiliation	Date
	Tel	Email