

REQUEST FOR WHITE PAPERS

ARMY RESEARCH LAB ON BEHALF OF ARMY FUTURES COMMAND AND
DEFENSE LOGISTICS AGENCY

RFW 24-01

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INTRODUCTION

This announcement constitutes a request and solicitation for white papers (WPs) specifically related to manufacture of forgings in the US, and the forging supply chain. The Army Research Lab (ARL), in collaboration with the Defense Logistics Agency (DLA) and on behalf of the Army Futures Command (AFC), understands the critical role forgings play in the Defense Industrial Base (DIB), and the need for investment to ensure a robust and healthy DIB. Therefore, working closely with the Forging Industry Association (FIA), ARL will consider FIA member and non-member WP submissions for funding. The primary objective of this opportunity is to maximize the probability of project results transitioning to implementation within the industry. ARL desires projects led by the forging industry, specifically companies that are forging producers or suppliers. Other organizations may support the project, and ARL would support projects involving as many organizations as needed to execute the project, provided the project is led by the forging industry.

This announcement serves as official communication to the industry membership that awards are anticipated, and funding will be available. For the purposes of this proposal, projects should not be scheduled to start before Tuesday October 1, 2024, and should not run for more than two years. It is predicted that between three (3) and four (4) WP submissions will be selected. The total dollar amount for each project should not exceed one million dollars (\$1M) in government costs. Prospective projects are expected to have a minimum of twenty-five percent (25%) in cost share based on the total proposed government cost. Any equipment costs proposed will be considered provided they do not comprise a nominal percentage of the total proposed government cost, at thirty percent (30%) or less. WP selection is subject to the submissions received and the criteria outlined in this document. Prospective submissions must have details about both the project and their organization as outlined in the *White Paper Template* document.

COMMITTEES AND EVENTS

Project Lead: Individual primarily responsible for project performance. Responsible for reporting on monthly project progress, financial reporting, and presentations to the Technical Committee.

Defense Technical Committee (DTC): A committee comprised of technical experts within the forging industry and ARL. Provides recommendations to the Defense Executive Committee for projects to award, milestones, and Gate Review approval. Interfaces directly with the Project Leads at key meetings to assess technical progress and project viability through Gate Reviews. Reports findings and recommendations to the Defense Executive Committee. DTC members will be comprised of FIA and ARL representatives, a list of organizations involved will be provided on FIA's website. Any DTC members with any tie, direct or indirect, to a WP submission will abstain from providing feedback on that WP.

Defense Executive Committee (DEC): A committee comprised of key personnel within the DIB, representing both ARL and the forging industry. Provides final assessment on all submitted projects, milestones, and Gate Reviews. Ensures projects benefit the forging industry and the warfighter. DEC members will be comprised of FIA and ARL representatives, a list of organizations involved will be

provided on FIA's website. Any DEC members with any tie, direct or indirect, to a WP submission will abstain from providing feedback on that WP. Final project selection will be approved by ARL.

The events below are provided to give an overview of the schedule of events. Any WPs submitted past the dates listed below will not be considered.

DATE	EVENT NAME	EVENT ACTION
03/14/24	Document Release: Request for White Papers	The date that this document is finalized, and the opportunity is broadcasted.
04/10/24	FIA Virtual Meeting: Question and Answer Session	This meeting will provide an overview of the opportunity and its objectives, with ample time for addressing questions. Responses will be posted to FIA's website.
05/20/24	Documents Due: White Paper, Cost Proposal, and Project Schedule	White papers, along with proposed costs, are submitted to the FIA submission inbox. DTC receives and reviews white papers along with cost and schedule.
06/19/2024	DTC Onsite Meeting: Review of White Papers	DTC onsite meeting for a review, discussion, and ranking of the white papers.
06/21/2024	DTC Feedback: Comments and Recommendations to DEC	DTC comments and rankings are compiled by FIA and sent to the DEC. The DEC reviews the white papers and recommendations submitted prior to the DEC virtual meeting.
06/26/2024	DEC Virtual Meeting: Review and Selection of Projects	Final virtual review occurs. DEC selects white papers to be awarded.

Table 1: Chronological events relate to the Request for White Papers.

To provide an overview of the events described above, an organizational chart is provided below.



Figure 1: Organizational structure of individual project teams.

WHITE PAPER EVALUATION PROCESS

The submitted WPs will be reviewed by the DTC members per the rubric in this section. Only WPs submitted using the *White Paper Template* document will be reviewed, which has been provided separately.

WPs will be reviewed and scored by the DTC as a group using the rubric below. The DTC will provide scores and recommendations to the DEC, ranking projects based on how they met the criteria described.

WHITE PAPER EVALUATION CRITERIA	WEIGHT
Technical Merit	20%
Provide relevant background information necessary to understand the need for the project, as well as the project objective, viability, and risk. Projects proposed should have only moderate risk.	
Transition Plan	30%
Transition is a critical element to the projects proposed. Each project will have a clear transition plan in the format of the Sample Transition Plan outlined in the <i>White Paper Template</i> document. Projects will be scored in this category on the content of the transition plan and its technical feasibility.	
Costs Proposed	15%
Costs proposed must be in accordance with the guidance provided in the Introduction section. Each project will have a clear Cost Proposal in the format of Attachment A which is referenced in the <i>White Paper Template</i> document.	
Warfighter and Industry Benefits	15%
The project will be scored based on the significance of the benefits to both the forging industry, the Defense Department, and the warfighter. Projects will be scored based on the cost benefits, lead time reductions, and educational value for the DIB described.	
Clear Deliverables	10%
Each project will have a clear Project Schedule in the format of Attachment B which is referenced in the <i>White Paper Template</i> document. Projects will be scored based on deliverable feasibility and clarity.	
Management and Structure	10%
Each project will describe the facilities and capabilities of the project team as outlined in the Project Composition portion of the <i>White Paper Template</i> document. Projects will be scored on technical capabilities with respect to the project scope, as well as prior work and experience.	

Table 2: *White paper criteria for evaluation.*

AREAS OF INTEREST

The below areas represent a list of key areas of focus identified as beneficial to AFC and the DIB. Industry committee members support these areas as critical to the future of the forging industry. ARL is

interested in collaborating with FIA member companies on behalf of AFC to further the mission and objectives of the warfighter.

Area 1: Developing Robotics and Automation Solutions

Area 1 Description: Using robots to perform material handling of hot parts has been demonstrated to expand production capacity, reduce costs, improve quality, and reduce injuries. Responses must identify processes for automation that improve production for the forging industry and thus strengthen the warfighter supply chain. It is contemplated that these processes may be downstream in the forging supply chain.

Area 2: Simulation Tools for Materials Characterization

Area 2 Description: Simulation modeling for material characterization serves as a vital tool, offering rapid details about the forging process and parts compared to shop floor trials. Responses must identify critical alloys to the forging industry and propose a robust microstructure evolution and property prediction model for these alloys. These projects will help with material lead time and streamline the warfighter supply chain.

Area 3: Material Source Diversification

Area 3 Description: Qualifying and approving additional mills that have existing capability to supply materials critical to the supply chain would increase available sources and increase the potential to improve lead times. Responses must include a test plan and production schedule, as well as a proposed approval process. This response should propose key stakeholders within the forging industry as well as outside the industry, such as Original Equipment Manufacturers (OEMs).

Area 4: Proposed Area of Interest

Area 4 Description: ARL will contemplate additional topic areas proposed that relate to the manufacture of forgings and the forging industry not identified above. The response must provide adequate justification for this topic area, citing industry trends and proving direct benefit to the forging industry and the warfighter supply chain.

ORGANIZATION CHART

All WP submissions should identify the below roles for the project, conforming to the definitions as outlined below. An organizational chart is provided below to outline the roles described.

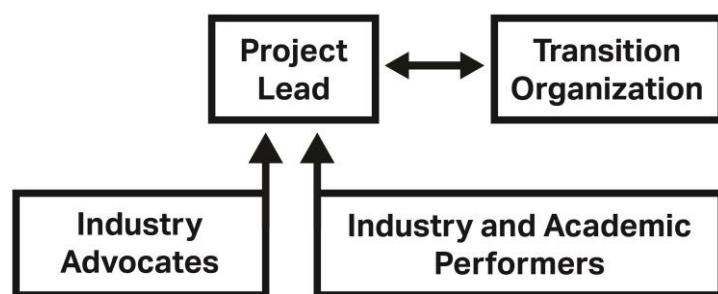


Figure 2: Structure of individual project teams submitting proposals.

Project Lead: Individual primarily responsible for WP submission and project performance. Responsible for reporting on monthly project progress, financial reporting, and presentations. An ideal Project Lead has direct experience with the proposed project work as well as the forging industry and has an established relationship with the Transition Organization. This individual may be a representative of the Transition Organization.

Transition Organization: The company within the forging industry where production trials will be performed and who will directly benefit from the project. The Transition Organization will provide the majority of the project cost share through production trials and personnel activities in support of the project. The Transition Organization is responsible for providing all relevant data to the Project Lead for the purposes of reporting and presentations. The Transition Organization will appoint and identify in the WP personnel who will collaborate directly with the Project Lead on successful transition of the project results at the Transition Organization.

Industry and Academic Performers: Supports the Project Lead in execution of the project. Ideal participants provide access to facilities, material, expertise, or other benefits at key project milestones. This participation supports the primary goal of project transition.

Industry Advocate(s): Representatives of organizations other than the Transition Organization who value the project and will benefit from it. Ideal Industry Advocates provide letters of support that the Project Lead submits alongside the WP and may provide cost share in addition to the Transition Organization. These individuals also provide external awareness of the project and voice their support for the project within the forging industry.

SUBMISSION INSTRUCTIONS AND POINT OF CONTACT

All submissions to FIA will be distributed to ARL, DLA, and committee members. WPs will be submitted to whitepapers@forging.org, along with all documents outlined in the *White Paper Template*. All submitted WPs are covered by the confidentiality statement shown on the cover page of the *White Paper Template*. Multiple submissions from the same organization(s) are possible provided the structure outlined in the *White Paper Template* is followed. Submissions will not include any controlled unclassified information. All WPs must be received by Monday, May 20, 2024, at 11:59 PM Eastern Time. WP submissions must be accompanied by a Cost Proposal and Project Schedule which include all details described here and outlined in the *White Paper Template*. While additional file formats are acceptable, the WPs must be submitted as a PDF to preserve formatting.

All questions related to the WPs and related documents can be directed to the point of contact provided below. All questions that receive a response will be published on FIA's website and available to all prospective submitters.

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