

**DEFENSE LOGISTICS AGENCY**  
**20.1 Small Business Innovation Research (SBIR)**  
**Program Direct to Phase II Proposal Submission**  
**Instructions**

The Defense Logistics Agency (DLA) Small Business Innovation Program (SBIP) seeks small businesses with strong research and development capabilities to pursue and commercialize specific technologies to meet DLA objectives.

The intent of the 20.1 DLA SBIR Direct to Phase II proposal submission instructions is to clarify the Department of Defense (DoD) instructions as they apply to DLA requirements. This Announcement is for Direct to Phase II proposals only. All Phase II proposals must be prepared and submitted through the DoD SBIR/STTR electronic submission site:

<https://www.dodsbirsttr.mil/submissions/>. The offeror is responsible for ensuring that their proposal complies with the requirements in the most current version of instructions. Prior to submitting your proposal, please review the latest version of these instructions as they are subject to change before the submission deadline.

Submit specific questions pertaining to the DLA SBIP Program to the DLA SBIP Program Management Office (PMO) at E-mail – DLASBIR2@dla.mil

**1. DIRECT TO PHASE II**

15 U.S.C. §638 (cc), as amended by NDAA FY2012, Sec. 5106, and further amended by NDAA FY2019, Sec. 854, PILOT TO ALLOW PHASE FLEXIBILITY.

This allows the Department of Defense to make an award to a small business concern under Phase II of the SBIR Program with respect to a project, without regard to whether the small business concern received an award under Phase I of an SBIR Program with respect to such project.

DLA is conducting a "Direct to Phase II" implementation of this authority for this SBIR Announcement. This pilot does not guarantee DLA will offer any future Direct to Phase II opportunities.

DLA Direct to Phase II Proposals are different from traditional DLA SBIR Phase I proposals. The chart below explains some of these differences.

	<b>STANDARD DLA SBIR PROCESS</b>	<b>DLA D2P2 PROCESS</b>
<b>PHASE 1 TYPICAL FUNDING LEVEL</b>	\$100,000***	None
<b>PHASE 1 TECHNICAL POP* DURATION</b>	6 months	None
<b>PHASE 2 TYPICAL FUNDING LEVEL</b>	\$1,000,000**	\$1,000,000**
<b>PHASE 2 TECHNICAL POP DURATION</b>	24 months	24 months

\*POP= Period of Performance

\*\* May Exceed \$1,000,000 (up to \$1,600,000) with Program Manager **Approval (Pre-Release Discussion)**

\*\*\* May Exceed \$100,000 (up to \$252,000) with Program Manager Approval **(Pre-Release Discussion)**

## **2. INTRODUCTION**

Direct to Phase II proposals must follow the steps outlined in the following statements.

1. Offerors must create a Cover Sheet using the DoD Proposal submission system.
2. Offerors must provide documentation that satisfies the Phase I feasibility requirement\*. that will be included in the Technical Volume of the Phase II proposal
3. Offerors must demonstrate that they have completed research and development through means other than the SBIR/STTR Program to establish the feasibility of the proposed Phase II effort.
4. Offerors must submit a complete Phase II proposal using the DLA Phase II proposal instructions below.

\* NOTE: Offerors are required to provide information demonstrating that the scientific and technical merit and feasibility. DLA will not evaluate any Phase II proposal if it determines that the offeror has failed to demonstrate the establishment of technical merit and feasibility.

## **5. PROPOSAL SUBMISSION**

Submit the complete proposal, i.e., DoD Proposal Cover Sheet, technical volume, and cost volume electronically at <https://www.dodsbirsttr.mil/submissions/>. Ensure your complete technical volume and additional cost volume information is included in this sole submission.

### **Complete proposals must include all of the following:**

- a. DoD Proposal Cover Sheet (Volume 1)
- b. Technical Volume (Volume 2):
  - Part 1: Phase I Justification (20 Pages Maximum)
  - Part 2: Phase II Technical Proposal (40 Pages Maximum)
- c. Cost Volume (Volume 3)

### **The DLA SBIR Program is accepting Volume 5 (Supporting Documents).**

Phase II proposals require a comprehensive, detailed submission of the proposed effort. DLA SBIR Direct to Phase II periods of performance are 24 months. DLA may award SBIR Direct to Phase II efforts up to a maximum value of \$1,600,000 per contract award. Commercial and military potential of the technology under development is extremely important. Successful proposals will emphasize dual-use applications and commercial exploitation of resulting technologies.

## **6. Direct to Phase II PROPOSAL PREPARATION INSTRUCTIONS AND REQUIREMENTS**

### **PROPOSAL FORMAT (60 pages maximum)**

**A. Cover Sheet.** As instructed on the DoD SBIR proposal submission website, prepare a Proposal Cover Sheet (often two pages), include a brief description of the problem or opportunity, objectives, effort, and anticipated results. Summarize the expected benefits, as well as any government or private sector applications of the proposed research. OSD and SBA will post the Project Summary of selected proposals with unlimited distribution. Therefore, the summary should not contain classified or proprietary information.

## B. Technical Volume

- Phase I Justification (20 Pages Maximum). Offerors are required to provide information demonstrating the establishment of the scientific and technical merit and feasibility.
- Phase II Technical Objectives and Approach (40 Pages Maximum). List the specific technical objectives of the Phase II research and describe the planned technical approaches used to meet these objectives.
- Phase II Work Plan. Provide an explicit, detailed description of the Phase II approach. The plan should indicate how and where the firm will conduct the work, a schedule of major events, and the final product to be developed. The Phase II effort should attempt to accomplish the technical feasibility demonstrated in the justification, including potential commercialization results. Phase II is the principal research and development effort and is expected to produce a well-defined deliverable product or process.
- Related Work. Describe significant activities directly related to the proposed effort, including those conducted by the Principal Investigator, the proposing firm, consultants, or others. Report how the activities interface with the proposed project and discuss any planned coordination with outside sources. The proposers must demonstrate an awareness of the state-of-the-art in the technology and associated science.
- Relationship with Future Research or Research and Development. State the anticipated results of the proposed approach if the project is successful. Discuss the significance of the Phase II effort in providing a foundation for a Phase III research or research and development effort.
- Technology Transition and Commercialization Strategy. Describe your company's strategy for converting the proposed SBIR research, resulting from your proposed Phase II contract, into a product or non-R&D service with widespread commercial use -- including private sector and/or military markets.
  - What is the first product that this technology will go into?
  - Who will be your customers, and what is your estimate of the market size?
  - How much funding will you need to bring the technology to market, and how will you raise those funds?
  - Does your company contain marketing expertise and, if not, how do you intend to bring that expertise into the company?
  - Who are your competitors, and what is your price and/or quality advantage over your competitors?
- Key Personnel. Identify key personnel, including the Principal Investigator, who will be involved in the Phase II effort. List directly related education and experience and relevant publications (if any) of key personnel. Include a concise resume of the Principal Investigator(s).

- Facilities/Equipment. Describe available instrumentation and physical facilities necessary to carry out the Phase II effort. Justify the purchase of any items or equipment (as detailed in the cost proposal) including Government Furnished Equipment (GFE). All requirements for government furnished equipment or other assets, as well as associated costs, must be determined and agreed to during Phase II contract negotiations. State whether or not the proposed work facilities will be performed meet environmental laws and regulations of federal, state (name) and local governments. This includes, but is not limited to, the following groupings: airborne emissions, waterborne effluents, external radiation levels, outdoor noise, solid and bulk waste disposal, and handling and storage of toxic and hazardous materials.
- Consultants. Involvement of university, academic institution, or other consultants in the project may be appropriate. If the firm intends to involve these type of consultants, describe these costs in detail in the Cost Volume.

**C. Cost Volume (\$1,600,000 Maximum)**. A detailed, Phase II Cost Volume must be submitted online and in the proper format shown in the Cost Breakdown Guidance in Section 5.4 d of the DoD SBIR Broad Agency Announcement (BAA). Some items in the cost volume template may not apply to the proposed project. Provide enough information to allow the DLA evaluators to assess the proposer's plans to use the requested funds if DLA were to award the contract.

- List all key personnel by name as well as number of hours dedicated to the project as direct labor.
- Special Tooling, Test Equipment, and Materials Costs:
- Special tooling, test equipment, and materials costs may be included under Phase II. The inclusion of equipment and material will be carefully reviewed relative to need and appropriateness for the work proposed; and
- The purchase of special tooling and test equipment must, in the opinion of the Contracting Officer, be advantageous to the Government and relate it directly to the specific effort.
- Cost for travel funds must be justified and related to the needs of the project.

## **5. METHOD OF SELECTION AND EVALUATION CRITERIA**

**A. Evaluation Criteria**. DLA will review all proposals for overall merit based on the evaluation criteria published in the DoD SBIR Program BAA:

## **6. CONTRACTUAL CONSIDERATIONS**

**A. Awards**. The number of Direct to Phase II awards will depend upon the quality the Phase II proposals and the availability of funds. Each Phase II proposal selected for award under a negotiated contract requires a signature by both parties before work begins. DLA awards Phase II contracts to Small Businesses based on results of the agency priorities, scientific, technical, and commercial merit of the Phase II proposal.

**B. Reports**. For incrementally funded Phase II projects an interim, midterm written report may be required (at the discretion of the awarding agency).

- C. Payment Schedule. DLA Phase II Awards are Firm Fixed Price / Level of Effort contracts. Base monthly invoices on the labor hours recorded and the monthly costs associated with the project.
- D. Markings of Proprietary Information In accordance with DoD SBIR Program BAA, section 5.3. DLA does not accept classified proposals. All Final Reports are marked with Distribution Statement B.
- E. Copyrights, Patents and Technical Data Rights. DLA handles all Copyrights, Patents, and Technical Data Rights in accordance with the guidelines in the DoD SBIR Program BAA.

## **7. TECHNICAL AND BUSINESS ASSISTANCE (TABA)**

The DLA SBIR Program does not participate in the Technical and Business Assistance (formally the Discretionary Technical Assistance Program). Contractors should not submit proposals that include Technical and Business Assistance.

Reportable activities include:

- Sales revenue from new products and non-R&D services resulting from the Phase II project
- Additional investment from sources other than the Federal SBIR program in activities that further the development and/or the commercialization of the Phase II technology;
- The portion of additional investment representing clear and verifiable investment in the future commercialization of the technology (i.e. "hard investment");
- Whether the Phase II technology has been used in a fielded DoD system or acquisition program and, if so, which system or program;
- The number of patents resulting from the contractor's participation in the SBIR/STTR program;
- Growth in number of firm employees, and; Whether the firm completed an initial public offering (IPO) of stock resulting in part from the Phase II project

**DEFENSE LOGISTICS AGENCY**  
**2020.1 Small Business Innovation Research (SBIR)**  
**Program Direct to Phase II Proposal**

DLA201-D003      Production of Industrial Rubber Gloves for the Nuclear Enterprise Support Office through Manufacturing Techniques that Support Multiple DoD Applications for the DLA

DLA201-D004      Deployable Additive Manufacturing Capability

## DLA SBIR 19.3 Direct to Phase II Topic Descriptions

DLA201-D003      Production of Industrial Rubber Gloves for the Nuclear Enterprise Support Office through Manufacturing Techniques that Support Multiple DoD Applications for the DLA

TECHNOLOGY AREA(S): Materials/Processes

OBJECTIVE: The Defense Logistics Agency seeks to develop standardized and Additive Manufacturing (AM) production methods for certified Industrial Rubber Gloves for the Nuclear Enterprise Support Office (NESO) and related parts in the DoD supply chain. This project must demonstrate a standardized method for certifying Type I and Type III Industrial Rubber gloves and related parts for the DoD supply chain in a manner that is rapid, reliable, and scalable, although does not require production/purchase volumes beyond demand.

DESCRIPTION: DLA Logistics Operations has the goal of purchasing Industrial Rubber Gloves and related rubber protective equipment apparel in the DoD supply chain:

1. In monthly to quarterly quantities that meet but not exceed demand, estimated at 1300 pairs of gloves annually
2. With competitive pricing and enhanced performance
3. Timely delivery
4. Ability to rapidly transition chemistry and product through fused filament fabricated (FFF) 3D printed mandrels

Industrial rubber glove production is currently limited in part due to Berry amendment sourcing and production limitations. Consequently, DLA is looking for qualified companies and production methods that can address both small and large volume quantities. Ideally, glove, apparel, boots and parts may all be produced using natural rubber or polychloroprene chemistry.

PHASE I: Provide justification to bypass Phase I (Not to exceed twenty pages)

PHASE II: To qualify for the Phase II effort the proposer should possess a technology with proven feasibility – i.e. demonstration of Type I and Type III Industrial Rubber Gloves that meet the requirements outlined in MIL-DTL-32066A. Proposers should develop and propose a plan to enable certification of gloves and related parts using a flexible manufacturing process that allows for immersion production based on varied polymer chemistry and varied shapes using additively manufactured lost cost mandrels. **It is DLA's expectation that commercialization occurs shortly following the Phase II effort.**

PHASE III DUAL USE APPLICATIONS: At this point, no specific funding is associated with Phase III. Progress made in D2P2 should result in a functional Open Source System that can transition into the Government or the commercial markets.

COMMERCIALIZATION: Expand and enable a flexible and scalable supply chain **where a firm may produce qualified gloves and related parts in reasonable quantities and with rapid reliable delivery.**

REFERENCES:

1. MIL-DTL-32066Am 6 March 2014, SUPERSEDING, MIL-DTL-32066, 14 June 2000
2. <https://www.dla.mil/Portals/104/Documents/TroopSupport/CloTex/2018%20JAPBI/Gloves.pdf?ver=2018-12-27-172424-167>
3. <https://www.wbparts.com/rfq/8415-00-266-8675.html>
4. Rapidly Self-assembled Thin Films and Functional Decals, US20050064204A1, 2004

KEYWORDS: Industrial Rubber Gloves, NESO, Type I and Type III, MIL-DTL-32066A, Immersion, Seamless

## Processing, Additive Manufacturing, and 3D Printed Mandrels

### TECHNOLOGY AREA(S): Materials/Processes

**OBJECTIVE:** The Defense Logistics Agency seeks to develop standardized and Additive Manufacturing (AM) production methods in a deployed environment.

**DESCRIPTION:** Repair and part obsolescence are on-going supply chain challenges. Often, there is a requirement for singular or just a few replacement parts. The cost and lead times of non-recurring expenses associated with standard manufacturing approaches can increase the cost and time to produce a “one-off” or low rate build part by orders of magnitude. Advanced manufacturing techniques (such as additive manufacturing) provide opportunities to provide on demand, zero tooling components. To realize the full capability of advanced manufacturing processes, quasi-automated manufacturing needs to move into the realm of truly automated. This will reduce the dependency on the user. Rapid deployment needs to be part of any future planning, allowing functionality in all environments and theaters.

The deployable system must meet DoD and military shelter safety requirements, ISO/CSC standard intermodal transportation requirements, necessary environmental controls for typical deployed environments, power consumption on the order of that already provided by deployed DoD generator systems, and provide a level of automation capable of supporting a novice controller. An ideal advanced manufacturing machine will provide flexibility in material and footprint (modular/customizable for theater). A system capable of manufacturing with plastics, metals, composites, and/or ceramics would provide maximum use.

While software currently exists to support and automate each manufacturing step individually, expert users are still required to interpret data from the previous step and establish appropriate inputs for the next step. There is an apparent need for a single software package to manage the workflow from part identification to part certification, automatically.

**PHASE I:** Provide justification to bypass Phase I (Not to exceed twenty pages)

**PHASE II:** To qualify for the Phase II effort the proposer should possess a technology with proven feasibility. An ideal system would provide the following qualities:

1. Part Scan to Part Geometric Certification with minimal hardware and software interfacing
2. Ability to build drop-in, optimized re-design, or new design parts
3. Digital tolerance control (physical part, to digital, back to physical) of +/-0.010”
4. Effective with metals, plastics, filled, and ceramic materials
5. A minimum print bed size of 12”x12”x12”
6. Overall system size that is only nominally larger than the print bed size in a minimum of one direction, but ideally two directions, to enable efficient packaging options (e.g., containerization). For example, a columnar printing system may have a footprint the size of the print bed, but be much taller than the print bed height.
  - a. Material storage footprint is not of immediate concern due to different environmental and human access requirements
7. Be deployable within ISO standard shipping containers (8’x8’ opening and up to 40’ long). Containerization enables rapid deployment around the world.
8. Weight and power consumption conscientious
  - a. A target system weight would be 10% of the container payload capacity (20’ ISO container is capable to ~55,000 lbs. payload)
  - b. Target power consumption would enable operation with standard deployable generator systems (such as MEP-805, MEP-806B or PU-805B)
9. Material and configuration modifiable without affecting the certification of the system rapidly transition chemistry and product through fused filament fabricated (FFF) 3D printed mandrels

PHASE III DUAL USE APPLICATIONS: At this point, no specific funding is associated with Phase III. Progress made in D2P2 should result in a functional Open Source System, which can transition into the Government or the commercial markets.

COMMERCIALIZATION: Expand and enable a flexible and scalable supply chain where qualified and related parts may be produced in the required quantities.

REFERENCES:

KEYWORDS: Advanced manufacturing techniques, additive manufacturing, On-demand zero tooling components