



REQUEST FOR PROPOSALS

*Leonard Wood Institute Solicitation: LWI #09.1
"Phase 0" Early Stage Business Research and Development*

Administered by
Leonard Wood Institute (LWI)
University of Missouri Technology Park
197 Replacement Avenue
Fort Leonard Wood, Missouri 65473

Solicitation Issued: November 19, 2009

Solicitation Closes: May 14, 2010

Submission Method: E-mail in PDF format to phasezero27.1@leonardwoodinstitute.org

*Point of Contact: Kathy Volz, LWI Technical Program Manager
E-mail: kathy.volz@leonardwoodinstitute.org*

Funding Opportunity Description

LWI is soliciting proposals from qualified small businesses to perform applied research and development work designed to provide proof of concept development and testing (also known as translational research) to support Phase I SBIR and/or STTR proposals. LWI's "Phase 0" Early Stage Business Research and Development Program provides funding to increase the potential of small, Missouri-based, technology-producing businesses to receive Defense-related Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) federal funding. LWI's "Phase 0" program is neither an official part of the federal SBIR or STTR programs nor a federally required step. Yet, participants in similar programs in other states have shown improved rates of receiving SBIR/STTR awards and company success.

Leonard Wood Institute (LWI) is an independent, non-profit, tax-exempt research organization based at Fort Leonard Wood, Missouri. LWI receives funding from the Army Research Laboratory (ARL), pursuant to Cooperative Agreement Number W911NF-07-2-0062, which allows LWI to initiate, fund, and manage a number of research and development projects. LWI's ability to fund projects is subject to the availability of Army funding.

LWI is committed to increasing the capabilities of businesses, universities, and non-profit research organizations to engage in applied research projects for the benefit of the United States Army, to support the American fighting force, and to expand the military technology base in Missouri.

Proposers not familiar the SBIR and STTR Programs are encouraged to review the information that can be found at the government portal for Small Business Innovation Research (SBIR) Information: <http://www.sbir.gov/>. Information regarding local, state-funded small business development technology resources can be found at: <http://www.missouribusiness.net/sbt/dc/index.asp>.

LWI is using an "open window" process wherein proposals submitted at any time before the solicitation closing will be evaluated on their own merits against the evaluation criteria contained in this solicitation without regard to other proposals submitted. Based on its evaluation of the proposals, LWI may invite the submitters of any or all proposals to provide more detailed technical and cost information, on a case-by-case basis. LWI will specify the format for such detailed information in the invitation. Neither the submission of a proposal nor LWI's request for detailed technical and cost information obligates LWI to select a proposal for funding. Proposers are encouraged to submit before the solicitation closing date. LWI will make awards throughout the "open window" and cease when program funds have been committed, which may be prior to the initially anticipated solicitation closing date.

Eligibility for Funding

In order to be eligible for program funds, a proposer must be:

- a Missouri-based small business
- compliant with the federal program submission requirements

- a Missouri-based small business, using only Missouri-based subcontractors and/or collaborators
- be willing and able to perform the project work in Missouri. This requirement may be waived if sufficient facilities and/or expertise are not available in Missouri in order to carry out the contemplated research and development work; and

Small businesses that have received prior SBIR/STTR funding are eligible for funding under this program, provided the small business has not received prior SBIR/STTR funding for the same idea or technology proposed under this program. Note that the prior participation by a college or university, Federally Funded Research and Development Center (FFRDC), or non-profit research institution in an STTR funded project will not disqualify the partnering small business that has not previously received SBIR or STTR funding for the idea or technology.

In order to be eligible for program funds, the proposed research project must demonstrate technical merit and commercial feasibility.

The SBIR/STTR proposals may be to any SBIR/STTR participating agency. However, LWI will give priority to those proposals intended for one of DoD's SBIR/STTR-participating components. Information regarding these components can be found at: <http://www.acq.osd.mil/osbp/sbir/>.

Use of Funding

There is no limitation of the amount of funding that may be requested by a qualified small business, but LWI reasonably expects that most successful proposals will be in the range of \$2,500 to \$75,000.

LWI-provided funds may be used for:

- R&D work performed directly by the small business
- acquisition of test data and analysis to support test data preparation
- contracting for proof-of-concept studies
- acquisition of market studies and communications with potential customers related to market validation
- hiring of consultants to assess the technical viability of the SBIR or STTR proposal
- contracting with external researchers or project managers to provide laboratory research or other assistance that will help substantiate the SBIR or STTR proposal
- travel or communication expenses to consult with distant faculty, researchers or experts

In general, LWI will not consider funding requests for equipment purchases. In no case may LWI funding be used for proposal preparation costs.

Deliverables

Successful proposers will be required to negotiate and execute cost-reimbursable subaward agreements with LWI, and agreement payments shall be contingent upon the receipt of federal funds by LWI.

The execution of all subaward agreements pursuant to this solicitation, and the administration and performance that is governed by the sub-award agreements, are subject to the requirements of the DoD Grant and Agreement Regulations (DoDGARs) (DoD 3210.6-R and 32 CFR Parts 21-37). A current version of the DODGARs may be accessed at the following website:
<http://www.onr.navy.mil/dodgars/download.asp>.

Submission of a Phase I SBIR or STTR proposal will be considered a subaward project deliverable. LWI will withhold 20% of project funds pending receipt of confirmation that a Phase I proposal relating to the work funded under this Phase 0 solicitation has been submitted to a participating federal agency.

Technology Areas of Interest

The SBIR/STTR proposals may be to any SBIR/STTR participating agency. However, proposed projects must relate to technology areas of interest to ARL, the U.S. Army Maneuver Support Center (MANSCEN) at Fort Leonard Wood, and LWI, which are:

- a) Training-based research in military consequence management
 - In terms of Homeland Defense, consequence management is the process of ensuring military readiness to take actions to maintain or restore essential services and manage and mitigate problems resulting from disasters and catastrophes, including natural, manmade, or terrorist incidents. Consequence management describes the ways and means to alleviate the short- and long-term physical, socio-economic, and psychological effects of natural disasters or attacks on the homeland. Federal military action in consequence management occurs only at the request and in support of state and local officials, and is part of the layered capabilities strategy adopted by the federal government.
 - In terms of the Protection Joint Functional Concept (PJFC) and Doctrine for Joint Operations (JP 3-0), consequence management includes the skills and capabilities necessary to maintain and restore power projection platforms and staging bases under circumstances similar to those seen in the context of Homeland Defense, but involving deployed forces engaged in military operations. This definition includes the understanding of a range of incident scenarios and research based on Army-transformational doctrine, training, and tools that will help warfighters prepare for and perform effectively in both the management of and recovery from disasters and attacks, as well as in many different threat environments on the battlefield. See also: http://www.dtic.mil/futurejointwarfare/concepts/jroc_protection_jfc.doc and http://www.dtic.mil/doctrine/jel/new_pubs/jp3_0.pdf.
- b) Army Research Laboratory (ARL) priorities, which include

- Scientific research directed toward defining human performance in perceptual, cognitive, and psychomotor domains, including research that provides scientific foundations for militarily relevant databases on human performance. Those data and associations are then embedded in modeling and simulation tools, which in turn serve to guide optimal design of human-system interaction in battlefield environments.
 - Modeling effects on cognitive and team performance of different timescales and other factors operating in a multi-echelon battle-management environment; defining and modeling effects of humans in automation, such as the effect of the automated system's interruption of ongoing human-in-the-loop tasks, characterizing the nature and extent of an automated or semi-automated system's tolerance for neglect of human input; and modeling interactions among cognitive, perceptual, and psychomotor performance of unmanned aerial and ground vehicles.
 - Research related to consequence management training in both human-performance-related topics and man-machine-interface topics.
- c) Force Operating Capabilities (FOCs) contained in the U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-66 (which can be found at <http://www.tradoc.army.mil/tpubs/pams/p525-66.pdf>), that relate to the following areas:
- Providing assured mobility
 - Denying enemy freedom of action
 - Engaging and controlling populations, including enemy prisoners of war (EPW) and other detainees
 - Employing non-lethal effects
 - Detecting and neutralizing environmental hazards
 - Reducing environmental damage from military operations
 - Understanding the battlespace environment
 - Training, leader development and education
 - Protection capabilities in the context of Forward Operating Bases (FOBs)

The above subject areas are of primary interest to LWI. However, federal SBIR and STTR Programs allow only the submission of proposals aimed at solving defined, agency-specific technology needs. Therefore, at any given time, federal agencies may not be soliciting technologies that are in LWI's areas of interest.

Each federal agency uses slightly different terminology, but defined technology needs are often referred to as "Solicitation Topics." Depending on when SBIR/STTR solicitations are released by DoD or other federal agencies, there may be no current Solicitation Topics in the area of interest to the researcher that also falls into one of the technology areas of interest for this program. The DoD often publishes information in the SBIR/STTR Interactive Topic Information Center (SITIS). The purpose of SITIS is to provide technical clarification on solicitation topics. It can be found at: <http://www.dodsbir.net/SITIS/>.

Submission Process

Proposals shall be submitted electronically by e-mail. The submissions shall be prepared in Portable Document Format (PDF), compatible with IBM format, and each project should have a separate submission. To track your proposal, please request a delivery confirmation receipt. Proposals submitted by any means other than the specified method will be disregarded. Proposers responding to this solicitation are wholly responsible for timely and properly formatted submissions.

Content and Formatting Instructions

Proposals must be prepared on an 8.5 x 11 inch page size, in a 12-point serif typeface, margins not less than one inch, and pages numbered sequentially. Proposals are limited to ten (10) pages, including project information, vitae, figures, tables, appendices, and attachments. Proposals exceeding a total of ten (10) pages of project information may be rejected without consideration.

Proposals should include a cover page and representations in the attached format. The cover page and representations are not included in the page limitation.

Proposals may not include URLs or directions to any other information sources or resources. Proposals containing such references will be considered to be attempting to circumvent the page limitation and will be rejected without consideration.

Proposals must include the following headings and should address the issues listed below each heading:

Identification and Significance of the Opportunity or Problem

- Describe the proposed innovation.
- Identify the problem that will be solved by this project's innovation.

Phase I Technical Objectives

- State the technical opportunity or problem and the DoD, Army, or other federal technical needs to be addressed.
- Specify which SBIR or STTR Solicitation Topic, Topic Concept, or technology concept (terminology may vary by agency) the research will address when a Phase I proposal is submitted to a federal agency. If submission is based on a previously published but currently closed solicitation, explain the basis on which the proposer anticipates the topic will be reissued (*e.g.*, discussion with Program Manager, etc.)

Work Plan

- Describe how the work will be performed, resources to be used, and expected results.
- Identify tasks, including work schedules, task assignments, and major project milestones.
- Summarize special capabilities of the small business and special techniques or facilities to be used for the proposed work.

- The period of performance is not to exceed 10 months. Projects with a period of performance of 3 to 6 months would be typical. All project work must be concluded by September 30, 2010.

Related Work

Describe R&D that company, personnel, and team members have been involved with.

Commercialization Strategy

State the prospects and strategy for realizing commercial applications of the technology proposed in the Phase I SBIR or STTR Proposal.

Key Personnel

List key personnel and describe their qualifications, including the principal investigator or co-principal investor(s).

Cost Proposal

Provide a project budget, including the principal cost elements, direct material costs, direct labor costs, other direct costs, indirect costs, and facilities capital cost of money.

Other Considerations (Optional)

The proposal may also contain any other information deemed germane to the proposed effort, such as descriptions of leverage assets, co-funding arrangements, consultant commitments, or technical references.

Evaluation Criteria

LWI may invite, at its own discretion, proposers to provide additional technical and cost information. LWI will make funding decisions based on the proposals and additional technical and cost information that is invited from proposers. LWI will select and fund those proposals that offer the best value, using a weighted evaluation as indicated in each of the following sections:

A. Technical Merit. The degree to which the small business advances the technical state-of-the-art and military technical competence; relevance to military technical needs as defined in this solicitation, and LWI's mission; and potential importance to intended recipients of the developed technology. (weighted 40%)

B. Approach and Capabilities. Realism of the proposed technical approach and methods, and their potential for attaining stated objectives and milestones on schedule using the techniques and resources described; corporate/organizational and individual qualifications for the work; adequacy of equipment, materials, and facilities proposed; and quality of technical management and plans. (weighted 20%)

C. Anticipated Benefits. Potential for sustained, significant benefit to the Army, the state of Missouri, and the region; potential for generating commercialized products and intellectual property and/or follow-on support from sources other than LWI; military operational significance and near-term application. (weighted 20%)

D. Costs and Budget. Cost realism and value of anticipated results for funding requested and schedule presented. Cost is considered a substantial evaluation criterion but is secondary to technical merit. (weighted 20%)

Other Requirements

LWI may require that successful proposers deliver at least one technical presentation in Missouri as part of the project. Successful proposers will be required to participate in government contracting and accounting training organized by LWI, unless the proposers can demonstrate that responsible staff persons have completed such training.

It is LWI's policy to treat all submissions as competitive information and to disclose the contents only for the purpose of evaluation. LWI may use selected contractors as special resources or technical experts to evaluate proposals. Non-Disclosure Agreements prohibit these contractors from disclosing proposal information or using it for purposes other than the technical assessment for LWI. By submitting a proposal to LWI, a proposer agrees that the project's technical and management information may be disclosed to select contractors and technical experts for the limited purposes stated above. Any information submitted to LWI that a proposer intends to exclude from such limited release must be clearly marked proprietary and submitted apart from other proposal material; note that such information will be included in the page limitation.

All proposals submitted under this solicitation must be for unclassified projects. If access to classified information is needed to conduct the proposed work, proposals must clearly state that the proposed work will involve access to classified information. If proposers intend to require access to classified information as a part of an unclassified project, they must be able to certify that they have a proper facility clearance, and key personnel must be certified as holding a Secret Clearance. LWI and the Army are not obligated to provide access to any information requested by proposers.

An invitation from LWI to submit more detailed technical or cost information does not assure subsequent award. The decision to submit or not submit detailed technical or cost information in response to an invitation from LWI is the responsibility of the proposer.