

# Long Range Research and Development Plan (LRRDP) Request for Information

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This Request for Information (RFI) seeks to identify current and emerging technologies and/or projections of technology-enabled concepts that could provide significant military advantage to the United States and its partners and allies in the 2030 time frame.

The Department is soliciting this information to focus the study and prioritization of novel or unconventional applications of technology in ways that would provide significant, enduring capability advantage to future US warfighting capabilities in conducting operations against a peer or near-peer competitor. We anticipate using this information to aid in the internal analysis and prioritization of DoD research and development investments.

As part of the broader Defense Innovation Initiative, this RFI seeks to glean information that will explore and develop new technologies and approaches to warfighting, balancing DoD's investment between platforms, payloads, and networks. Our long-term security will depend on whether we can address today's crises while also planning and preparing for tomorrow's threats. Our superiority has never been guaranteed, and today it is being increasingly challenged. Technologies and weapons that were once the exclusive province of advanced nations have become available to a broad range of militaries and non-state actors. The current effort seeks to leverage the information collected in response to this RFI to draw on the lessons of previous offset strategies and ensure that America's power-projection capabilities continue to sustain our competitive advantage over the coming decades.

Many, if not most, of the technologies that we seek to take advantage of today are no longer only the domain of DoD development pipelines or traditional defense contractors. DoD no longer has exclusive access to the most cutting-edge technology. This RFI actively seeks proposals from the private sector, including those firms and academic institutions outside DoD's traditional orbit.

Submissions should describe the operational opportunity; discuss the enabling technologies, and discuss the proposed methods for employing the technology.

Submissions to this RFI should be focused on technology-enabled capabilities that could be matured and would be available to enter formal development in the next 5-10 years, so as to provide an opportunity to offer significant military advantage in the 2025 to 2030 time frame. This focus restricts consideration to 1) relatively mature technologies that may be applied in novel or unique ways to field a fundamentally different type of system capability, 2) emerging technologies that can be rapidly matured to offer new military capability or 3) technologies under

development for, or being applied in, non-defense applications which can be repurposed to offer a new military capability.

## **Abstract Format**

Submissions shall not exceed ten-pages in length. Respondents are encouraged to provide multiple submissions if covering multiple technology concepts.

Submissions should include:

- a) A one-page cover sheet that identifies the contact information including the title, organization, responder's points of contact (names, addresses, phone number, and e-mail addresses). This cover sheet does not count against the ten-page limit.
- b) A one-page executive summary, summarizing key aspects of the response. This executive summary does not count against the ten-page limit.
- c) The body of the response.
- d) Figures, tables and drawings should be included within the ten-page limit.
- e) References, if included, do not count against the ten-page limit.

On the submission cover sheet, please annotate one or more of the following five categories to aid in assessing the submission

1. Space Technology
2. Undersea Technology
3. Air Dominance and Strike Technology
4. Air and Missile Defense Technology
5. Other Technology-Driven Concepts

Submissions are requested in electronic format as PDF (Portable Document Format) files (or equivalent).

## **Background**

An examination of military history provides striking examples where an enduring advantage over potential adversaries was obtained through the introduction of new and innovative systems and technologically-enabled concepts that had a disruptive effect on the status quo. By identifying, maturing and leveraging key technologies to enable new military capabilities, nations have been able to reshape the balance of military competition to the advantage of the early adopter of these disruptive technical capabilities.

The United States applied this way of thinking to great effect in the 1970s and 1980s, in addressing concerns about Soviet armored forces in Europe. The introduction of new precision-guided munitions capabilities, new platform concepts and reconnaissance and targeting capabilities shifted the nature of the military competition, negating the superior mass of Soviet armor through the ability to conduct precision strikes. The introduction of these new technology-enabled military capabilities disrupted the symmetrical nature of the competition, and enabled a shift in strategy that offset the natural advantages of the threat.

### **Long-Range Research and Development Planning Program (LRRDPP) of the 1970s**

The offset strategy of the 1980's relied on a combination of technologies that grew out of a research and development plan developed in the mid-1970s. The purpose of the 1970s LRRDPP effort was to assess the potential shifts of emphasis in the U.S. Defense R&D program required to offset emerging peer and near-peer capabilities. The LRRDPP analysts sought to identify the following information:

1. Those military capabilities that had the potential to make a significant difference in U.S. ability to cope with aggression;
2. Possible weapon and support system concepts that show considerable promise of providing these capabilities more effectively; and
3. Those technology programs that would have to be initiated or expanded to bring these concepts into reality.

The LRRDPP effort approached the task by identifying improved military capabilities needed by the United States and its allies to fight and win conflicts more effectively in future conflicts, and by assessing the future state of the art of, and possible contributions to, advanced weapons systems by certain key technologies.

The ultimate result of the effort was a set of recommendations to pursue specific technologies the LRRDPP participants deemed to be of strategic importance to reshaping the battlefield of the future. These recommendations for technology investment supported the development and maturation of capabilities such as advanced sensors for weapon guidance, data links, high-mobility vehicles, improved communication systems, cruise missiles, and remotely piloted vehicles. These capabilities first saw large-scale, integrated application in Operations DESERT SHIELD and DESERT STORM. In fact, the core of the U.S. military force structure and operational employment approach over the past 30 years is rooted in the technologies highlighted by the 1970s LRRDPP recommendations.

### **Long-Range Research and Development Plan (LRRDP) of Today**

With similar motivations, the department seeks to develop a new LRRDP. Rapidly advancing technologies provided the catalyst for the first LRRDPP effort, and today we see significant changes in the global technology landscape that compel a strategic evaluation of our research and

development investment strategy. The current LRRDP study seeks to identify opportunities for enduring innovation and opportunities to sustain future U.S. military capability advantage in an era of increasing technology globalization, rapidly evolving technology, and tightening budgets.

The current LRRDP effort is loosely modeled after the 1970s activity described above. The effort will be organized into the following five focus areas:

1. Space Technology
2. Undersea Technology
3. Air Dominance and Strike Technology
4. Air and Missile Defense Technology
5. Other Technology-Driven Concepts

The objective is to identify high-payoff enabling technology opportunities that could shape key future U.S. materiel investments and offer opportunities to shape the trajectory of future competition for technical superiority, with a focus on technology and technology-enabled concepts that could provide significant military advantage to the United States and its partners and allies in the 2030 time frame. The effort emphasizes the innovative application of technologies that can be leveraged for asymmetric advantage.

## **Abstract Submission**

Unclassified responses to this RFI should be submitted through the dedicated website with the following URL: <http://www.defenseinnovationmarketplace.mil/LRRDP.html>. All RFI responses will be accepted starting at 1400 EST, December 3, 2014, through 13 February 2015. The Government reserves the right to extend acceptance of RFI responses beyond this initial 45-day. The RFI will close-out no later than April 15, 2015. All technical questions regarding this announcement should also be submitted using the above URL.

To submit a classified response to this RFI, the proposer should contact Lt Col Luke Cropsey at [luke.c.cropsey.mil@mail.mil](mailto:luke.c.cropsey.mil@mail.mil) for further instructions to ensure the information is safeguarded at the appropriate level.

## **Disclaimer**

This is an RFI issued solely for information-gathering purposes; this RFI does not constitute a formal solicitation for proposals or abstracts. In accordance with FAR 15.201(e), responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. DoD will not provide reimbursement for costs incurred in responding to this RFI. Submission of

an abstract to this RFI is not required to propose to any Broad Agency Announcements or research announcements on this topic that might appear in the future. Respondents are advised that OSD is under no obligation to acknowledge receipt of the information received or to provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind OSD to any further actions related to this topic including requests for amplifications or follow-on proposals from vendors responding to this RFI.

Abstract submissions containing proprietary data must be clearly marked. The cover page and each page containing proprietary data must include the marking. It is the proposer's responsibility to clearly define to the Government what is considered proprietary data.

Use of Non-Government Advisors:

(a) Interested parties are advised that technical and other descriptive literature submitted to the Government in response to this request for information may be released to non-Government advisors for review and analysis. The non-Government advisor support will be provided by Booz Allen Hamilton, Inc.

(b) Offerors are advised to notify the Government about any actual or potential conflicts of interest involving the above firms immediately upon learning of the actual or potential conflict of interest.

\*NOTE: Those individuals at Booz Allen Hamilton will sign Non-Disclosure Agreements.

### **Point of Contact**

The administrative point of contact for this RFI is Nicholas Tambasco at WHS Acquisition Directorate. Any inquiries concerning administrative aspects of this RFI must be submitted by email to [nicholas.j.tambasco.civ@mail.mil](mailto:nicholas.j.tambasco.civ@mail.mil). Telephone inquiries will not be accepted.