Notice of Intent to Review Marketplace Solutions

ERIS Shopping Notice: High Duty Cycle High-Energy Lasers (HEL) for SWaP-Constrained Systems

SHOPPING NOTICE: DARPA-SN-26-82
MARKETPLACE: Defense Advanced Research Projects Agency (DARPA) Expedited Research Innovation System (ERIS)
REQUIRING ACTIVITY: DARPA, Strategic Technologies Office (STO)
NOTICE DATES: June 4, 2026 - November 30, 2026
TOPIC AREA: Developing advanced technologies for improved resilience, efficiency, and effectiveness of strategic systems. This topic area supports technologies for critical infrastructure and military command-and-control systems (networks and applications across strategic, command, operational, and tactical edges).

1.0 PURPOSE

Between the dates listed above, DARPA STO will be actively "shopping" the ERIS Marketplace for innovative, post-competitive, awardable solutions that address the need for moderate power (100W-20 kW) high-energy lasers that can be operated at high duty cycle in SWaP-constrained systems such as armored personnel carriers or unmanned aerial vehicles.

This is an active and immediate search for solutions. Submissions will be reviewed on a rolling basis in accordance with the procedures set forth in DARPA-PS-25-05.

2.0 PROBLEM & SCOPE

There is a collection of use cases for high energy lasers that do not require maximizing output power – applications such as counter-UAV/counter-rocket weapons, or aircraft self-protection weapons. Much of the focus on modern high-energy laser systems is on maximizing output power to increase range; however, this notice is interested in maximizing duty cycle to allow the laser to be fired in succession many times for long durations.

DARPA is exploring the development of new approaches to generating/amplifying high-energy lasers in the 100W-20kW power regime.

- **Current obstacles:** Current high-energy laser systems generate a large amount of heat that needs to be rapidly exhausted to maintain a high duty cycle and achieve the promised infinite magazine depth of high-energy laser systems.

- **Desired research focus:** Potential awardees will generate engineering designs for novel high-energy laser approaches that address the cooling challenges posed by continuous operation. Key research and innovations are expected to focus on heat exhaust and transport and returning the laser to a steady state for operations while maintaining beam coherence and other traditional metrics of laser quality. Solutions should allow phase control of the laser for purposes of beam tuning in a larger system.

- **Submission expectations:** DARPA STO is looking for solutions for a high-energy laser system architecture that can scale to 1-20 kW. Submissions should discuss scaling, cooling architectures,

wavelength flexibility, coherence and any other meaningful trades to allow DARPA to assess the promise of the technological approach.

3.0 DESIRED CAPABILITIES AND EXPERTISE

While ***all submissions will be evaluated against the standard criteria published in the ERIS Master Solicitation***, STO will be specifically looking for solutions that demonstrate strength in the following areas. These are not new evaluation criteria but rather highlight the specific attributes of interest for this opportunity.

- **Defining the Problem & Current State of the Art:**
  Strong submissions will demonstrate a deep understanding of the problem space. They should clearly define the scope of the technical challenge they address and compare their proposed solution to the limitations of the current state of the art, particularly regarding the challenge of maintaining a high duty cycle for long periods of time.

- **Advancing the State of the Art (Technical Innovation):**
  The most compelling solutions will be those that offer a significant technical leap forward. We are looking for new approaches to generating high-energy lasers for austere platforms, specifically for laser generation. Submissions should clearly articulate how their proposed innovation overcomes the limitations of existing solutions.

- **Team Capability (Expertise and Vision):**
  We are seeking teams with a strong vision and demonstrated expertise relevant to solving this complex problem. Proposing teams should possess significant, combined expertise in laser technology.

- **Impact (Defense and Commercial Use Case):**
  Solutions should demonstrate a clear potential to impact SWaP limited tactical high-energy laser systems, such as systems designed for armored personnel carriers and UAVs (e.g., CCAs). Submissions should discuss how their innovation could advance the state of the art for both defense and commercial applications.

4.0 HOW TO RESPOND

This notice is a call for solutions to be flagged for review.

For Existing Awardable Solutions:
Existing ERIS Solution providers who believe their current ERIS solution(s) meet the above characteristics may flag their existing solution video for inclusion in this market research activity by emailing ERIS@darpa.mil with the following:

- Subject Line: Shopping Notice Response: DARPA-SN-26-82 - [Your Company Name]
- Body: The Title and Video URL of your existing awardable solution.

For New Submissions:
Prospective ERIS Solution Providers interested in having their solutions included in this market research activity must submit a video solution through the standard ERIS submission process in either the June, July, August, September, October or November 2026 collection period. If the submitted solution is determined awardable in the

respective assessment period (July, August, September, October, November or December 2026), through the standard ERIS assessment process.

If you have a new solution, please submit it to the following Topic Area via the ERIS portal:

"Developing advanced technologies for improved resilience, efficiency, and effectiveness of strategic systems. This topic area supports technologies for critical infrastructure and military command-and-control systems (networks and applications across strategic, command, operational, and tactical edges)."

To ensure it is associated with this notice, please use the following format for your video title:

- Video Title Format: DARPA-SN-26-82: [Your Solution Title]
  (Example: DARPA-SN-26-82: High Duty Cycle HEL Cooling Architecture)

After submitting, please also send a notification email to ERIS@darpa.mil with:

- Subject Line: Shopping Notice Response: DARPA-SN-26-82 - [Your Company Name]
- Body: The Title of your new submission and its Date of Submission.

5.0 RESOURCES

- ERIS Master Solicitation: SAM.gov Link
- DARPAConnect offers free resources to potential performers to help them navigate DARPA, including "Understanding DARPA Award Vehicles and Solicitations", "Making the Most of Proposers Days", and "Tips for DARPA Proposal Success". Join DARPAConnect at DARPAConnect.us to leverage on-demand learning and networking resources.
- To Submit a New Solution: DARPAConnect ERIS Portal