

# SURVIVABILITY COATINGS

## PROTECT UNMANNED AIRCRAFT SYSTEMS

### THE PROBLEM

Directed-energy weapons (DEWs) that take advantage of improved high-energy lasers (HELs) and high-power microwaves (HPMs) present a threat to U.S. Army unmanned aircraft systems (UASs). Protective coating technology for aircrafts and weapon systems must keep up in order to counter this threat.

To create these coatings, AAL has launched **Aircraft Survivability for Countering Directed Energy Weapon Threats (C-DEW)**, also known as **Survivability Coatings**. The Army is looking for technology that can improve the survivability of aircraft, provide protection, and maintain established performance capabilities when attacked by high-power DEWs.

### THE OPPORTUNITY

In this Phase I [SPARTN SBIR](#) opportunity, as many as five businesses will be selected to receive up to \$200,000 each for a six-month period of performance. Businesses that develop advanced materials and coatings technology are encouraged to apply.

The application window opens May 25, 2022 and closes June 15, 2022 at 11:00am CT. Learn more at [aal.army/get-involved](https://aal.army/get-involved).

### Examples of successful technology features could include:

- Low cost to manufacture in small quantities:
  - Goal: Less than \$10,000 per application/unit or aircraft, such as the JSF/F-35 or Blackhawk/H-60
  - Acceptable: Less than \$100,000 per unit
- Low time to install:
  - Goal: None
  - Acceptable: Less than one day per unit
- Ease of application, with the goal of in-field use by untrained or minimally trained staff, in a hangar or protected bay
- Operating environment:
  - Goal: More than 100 °C
  - Acceptable: Minimum of -40 °C, 100% humidity
- Cooling:
  - Goal: None
  - Potentially: Conductively cooled by air
- Power consumption:
  - Goal: Environmentally powered
  - Acceptable: None

### THE PROTECTIVE COATING SHOULD INCORPORATE THREE KEY FEATURES:



#### QUICK INSTALL

The Army wants technology that is fast and easy to set up in the field. The technology should be intuitive enough to set up with minimal training.



#### LOW HEAT

An ideal coating will not require cooling of any kind. If this is not possible, the use of conductive cooling may be a potential solution



#### LOW POWER CONSUMPTION

The coating will consume power using only the environment. If possible, the coating could even require no power consumption at all.

# BACKGROUND ON OUR SPARTN PROGRAM

Special Program Awards for Required Technology Needs (SPARTN) is a new program for the Army — and for the small businesses that want to work with us — led by the Army ASA(ALT) Small Business Innovation Research (SBIR) team and bolstered by AAL models and outreach.

SPARTN blends government and industry best practices to introduce a new whole-of-Army, collaborative approach to solution innovation. The result is a way to solve Army problems faster and to accelerate the process by which successful technology is purchased by the Army.

## WHAT MAKES SPARTN DIFFERENT?

- 1 Problems released through SPARTN are tied to the Army's critical needs and other focused modernization efforts
- 2 Faster contracting speed, with businesses typically notified of award 4x faster than the conventional SBIR process
- 3 Potential for millions in total value follow-on contract to build a concept or prototype related to the specific problem
- 4 Acquisition teams included early with the goal of easing transition and building new tech into recurring Army budgets
- 5 Potential for future high-value contracts via SBIR, other government funds, and private investment you secure

All topics released through SPARTN feature challenging and important problem statements from problem owners across the Army. These represent some of our biggest challenges and the ones we want to work closely with industry to solve.

To learn more about SPARTN or how to apply for a SPARTN topic, visit [aal.army/SPARTN](http://aal.army/SPARTN).



## POINT CHALLENGE



**“WE KNOW WHAT WE WANT.”**

We need a specific solution, tailored to meet a detailed problem statement.

<b>TIMEFRAME</b>	1–2 years
<b>PARTICIPANTS</b>	Potential for multiple businesses
<b>FORMAT</b>	Businesses are separately tasked to develop technology tailored to a distinct problem
<b>EXAMPLE PROBLEM STATEMENT</b>	“How can we create a specific radio to transmit and receive on the same frequency?”
<b>FUNDING DETAILS</b>	Funding and periods of performance are determined by topic requirements
<b>SBIR PHASE DETAILS</b>	Can invest across different tech development stages Depending on the topic, both Phase I and Direct to Phase II awards may be possible



### ABOUT THE ARMY APPLICATIONS LABORATORY

We don't make things — we make things possible. The Army Applications Laboratory (AAL) is the Army's innovation unit and a partner for industry, the Army, and government organizations. We discover practices and processes to speed capability development and turn cutting-edge ideas into real, relevant solutions for Soldiers. Learn how we do it at [aal.army](http://aal.army).

