

RCV SUSTAINMENT

KEEPING ROBOTIC COMBAT VEHICLES (RCVs) RUGGED AND COMBAT READY

THE PROBLEM

Robotic Combat Vehicles (RCVs) reduce the risk to Soldiers and deliver advantages during conflict. But the U.S. Army can only retain these advantages if RCVs can stay in the fight.

As part of modernization efforts, the Army wants to implement smart-sensor capabilities to help sustain these platforms. From remote troubleshooting, to predictive maintenance, to the ability to anticipate resupply, these capabilities will be critical to the future ground force.

THE OPPORTUNITY

Capabilities like these are maturing in the commercial market. That's why AAL is partnering with the Next Generation Combat Vehicle Cross Functional Team and PM Maneuver Combat Systems on this SPARTN SBIR topic, *Robotic Combat Vehicle (RCV) Sustainment* (#A214-035).

We are inviting companies that develop modular hardware and software components to apply. Ultimately, the Army must be able to gather, fuse, and interpret RCV sustainment requirements and operational capabilities in order to deliver actionable information to decision makers and end users (Soldiers).

Examples of desired features include, but are not limited to:

- Fusion of fuel level and altitude sensor data so we can amend refueling requirements
- Ability to remotely corroborate reported damage to the vehicle and identify potential fixes
- Analysis of battery charge history to predict battery degradation and replacement timeline
- Prioritization of critical data for transfers made in a degraded communication environment
- An integrated user interface that is able to display RCV sustainment requirements

In Phase I, as many as 10 businesses will be selected to receive up to \$200,000 each for a 12-week period of performance, including the ability to participate in an optional cohort. In Phase II, as many as 5 businesses will be selected to receive up to \$1.5 million for a 24-month period of performance.

RCV-LIGHT

The RCV(L) is an experimental prototype for an unmanned platform that uses a **modular mission payload** (MMP) architecture. This allows commanders at even the lowest tactical levels to rapidly augment the vehicle for various missions. The RCV(L) is a nimble vehicle that is optimized for size, weight, power, and cost (SWaP-C).



RCV-MEDIUM

The RCV(M) is an experimental prototype for an unmanned platform that uses MMP architecture but possesses an increased profile, armor, and enhanced ability to target. Its capabilities include electronic warfare (EW), counter-unmanned aerial systems (CUAS), and mobile obscuration — reducing risks to Soldiers in dangerous situations.



PROJECT ORIGIN

Project Origin is used as a technology demonstrator for MMPs. Selected businesses will have the opportunity to test solutions on a demonstrator like Project Origin. This platform is the predecessor that gave rise to unmanned scout vehicles which identify terrain, find targets, and engage enemies while keeping Soldiers informed.



BACKGROUND ON THE NEW SPARTN PROGRAM

Created in FY20, 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.



THE AAL COHORT MODEL + SPARTN TOPICS

AAL's Cohort Program is similar to an accelerator, similar to a hackathon, similar to traditional acquisitions, but none of those things by itself. It brings together businesses that don't usually work with the DoD and focuses them on solving a specific Army problem. They work side by side with Soldiers and with a community of Army experts and stakeholders on a shared learning journey to create something new.

Businesses selected for this topic will be invited to join a focused cohort to gain deeper insight into the problem and direct interaction with Army stakeholders and end users. While joining a cohort isn't required, it can provide more access and information to help refine your solution.

A DIFFERENT KIND OF COHORT

- // Not a conventional cohort or accelerator program
- // Hybrid experience with both virtual and in-person activities
- // Each cohort focuses on solving a specific problem
- // Increased access to key Army leaders and end users
- // Visits to Army posts where you can see the problem firsthand

Visit aal.army/cohortprogram to learn more about the AAL Cohort Program and the benefits of participating.

ABOUT THE ARMY APPLICATIONS LABORATORY

We're not a laboratory in the traditional sense of the word. As the U.S. Army's innovation unit, we don't make things — we make things possible. The Army Applications Laboratory (AAL) is fundamentally reshaping how the Army works with industry to reunite American innovation and national security. Together, we question *why* and deliver *what if*. Learn how we do it at aal.army.

