

MISSILE DEFENSE AGENCY (MDA)
SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM)
Boosting Engineering Science and Technology (BEST) Robotics Grant
Robotics Kits
Fiscal Year (FY) 2022

I. Funding Opportunity Description

The purpose of this announcement is to allow Official Boosting Engineering, Science, and Technology (BEST) Robotics Inc. Local Competition Hubs the opportunity to obtain financial support for purchasing new robotic kits and/or supplies to support competing teams from Title I schools. The additional robotics kits and materials increases the number of competing teams, the accessibility of this program to underserved populations, and advances the awareness of and engagement in Science, Technology, Engineering, and Mathematics (STEM) with K-12 populations.

Missile Defense Agency (MDA) STEM:

The MDA STEM Outreach's goal is to increase STEM awareness and proficiency among K-12 and college students to enhance the number of U.S. scientists and engineers capable of solving future missile defense challenges in the government, industry, and academia.

MDA STEM is further guided by the following objectives:

1. **Increase** the number of high school graduates capable of declaring a college major in a STEM field.
2. **Inspire** K-12 and college students about career paths and the activities of scientists and engineers.
3. **Investigate** real-life, practical uses for applied math and science in K-12 grade classrooms to further degree declarations; and career and life interest in STEM.
4. **Present** the importance of STEM career opportunities to school personnel, parents, and supporting institutions.

BEST Robotics, Inc.:

BEST Robotics, Inc. (<https://www.bestrobotics.org/site/>) is a non-profit, volunteer-based organization whose mission is to inspire students to pursue careers in engineering, science, technology, and math through participation in a sports-like, science-and engineering-based robotics competition.

BEST's mission is to engage, inspire and excite students to pursue STEM majors and STEM careers through the vehicle of an after-school robotics program and competition. BEST values access and diversity and encourages participation of all students and schools by providing a free program supported through the fundraising and mentoring efforts of a large higher education and industry volunteer corps.

BEST Robotics Inc. point of contact: Michael Steiner, Executive Director,
Michael.Steiner@Bestinc.org, (412) 499-4790.

II. Eligibility Information

Official BEST Robotics Inc. Local Competition Hubs that are managed by or work closely with a Higher Education Agency (HEA), such as a junior college or university, are eligible to apply for funds via this grant. For hubs not managed by, yet closely working with an HEA, all receipted and payment portions of the grant must be processed through the HEA's grant office. All non-HEA hubs must be classified as non-profit, 501(c)(3).

Novice hubs typically require more funding support, as they work to establish collaboration and partnerships for sustainability. Therefore, this grant is focused on establishing relationships with colleges and universities and supporting their infrastructure to advance STEM engagement and learning.

Local Competition Hubs awarded an MDA STEM Best Robotics Kit grant during Competition Year 2021 (MDA FY 21) should only apply to this grant if:

1. Projected team registration goals proposed in the MDA FY21 application were attained; and
2. Current request for grant funds reasonably exceeds the previous proposal and new team requirement target goals.

Local Competition Hubs awarded an MDA STEM Best Robotics Kit grant in any previous Fiscal Years (2015-2021) must have met all reporting requirements, including deadlines and content requirements.

III. Application Date

Grant applications must be received through Grants.gov by May 6, 2022 at 5:00 PM CT. Applications received after this date will be considered late and will not be considered for funding.

IV. Anticipated Awards

Multiple awards are anticipated under this funding opportunity. However, MDA is under no obligation to make any awards in response to the applications submitted. The number of awards is not predetermined.

V. Funding Availability

Each hub's individual grant award will vary, but may not exceed \$15,000.00. While the cost of the consumable portions of each kit may vary by region and vendor, requested funding amounts should reflect the estimated kit cost of \$1,500.00 per kit. Applicants should be aware that funding availability may change with little or no notice.

VI. Use of Grants.gov

This section provides instructions for registration and submission of applications in Grants.gov. Please read the following instructions carefully and completely. Additional information can be found on the Grants.gov website.

1. How to Register to Apply through Grants.gov

- a. *Instructions:* Applicants should read the registration instructions carefully and prepare the information requested before beginning the registration process. Reviewing and assembling the required information before beginning the registration process will alleviate last-minute searches for required information.

Organizations must have a Data Universal Numbering System (DUNS) Number, active System for Award Management (SAM) registration, and a Grants.gov account to apply for grants.

Creating a Grants.gov account can be completed online in minutes, but DUNS and SAM registrations may take several weeks. Therefore, registration should be done in sufficient time to ensure it does not impact an applicant's ability to meet required application submission deadlines.

Note: For payment purposes, awardees must be registered in Wide Area Workflow, and accounts must remain current, until all grant agreement payments and reporting are complete. To register in Wide Area Workflow, visit the Procurement Integrated Enterprise Environment (PIEE) at <https://piee.eb.mil> and click "Register" in the top right corner.

Complete instructions can be found on Grants.gov

here: <https://www.grants.gov/web/grants/applicants/apply-for-grants.html>

- i. *Obtain a DUNS Number:* All applicants must have a DUNS Number from Dun & Bradstreet (D&B). Applicants must enter the DUNS Number in the data entry field labeled "Organizational DUNS" on the SF-424 form. For more detailed instructions for obtaining a DUNS Number, refer to: <https://www.grants.gov/web/grants/applicants/organization-registration/step-1-obtain-duns-number.html>
- ii. *Register with SAM:* All applicants must register with the System for Award Management (SAM). Failure to register with SAM will prevent you from applying through Grants.gov. SAM registration must be renewed annually. For more detailed instructions for registering with SAM, refer to: <https://www.grants.gov/web/grants/applicants/organization-registration/step-2-register-with-sam.html>
- iii. *Create a Grants.gov Account:* The next step is to register an account with Grants.gov. Follow the on-screen instructions or refer to the detailed instructions here: <https://www.grants.gov/web/grants/applicants/registration.html>
- iv. *Add a Profile to a Grants.gov Account:* A profile in Grants.gov corresponds to a single applicant organization the user represents (i.e., an applicant) or an individual applicant. If you work for or consult with multiple organizations and have a profile for each, you may log in to one Grants.gov account to access all of your grant applications. To add an organizational profile to your Grants.gov account, enter the DUNS Number for the organization in the UEI (Unique Entity Identifier) field while adding a profile. For more detailed instructions about

creating a profile on Grants.gov, refer to: <https://www.grants.gov/web/grants/applicants/registration/add-profile.html>

- v. *EBiz POC Authorized Profile Roles*: After you register with Grants.gov and create an Organization Applicant Profile, the organization applicant's request for Grants.gov roles and access is sent to the EBiz Point of Contact (POC). The EBiz POC will then log in to Grants.gov and authorize the appropriate roles, which may include the Authorized Organizational Representative (AOR) role, thereby giving you permission to complete and submit applications on behalf of the organization. You will be able to submit your application online any time after you have been assigned the AOR role. For more detailed instructions about creating a profile on Grants.gov, refer to: <https://www.grants.gov/web/grants/applicants/registration/authorize-roles.html>
- vi. *Track Role Status*: To track your role request, refer to: <https://www.grants.gov/web/grants/applicants/registration/track-role-status.html>
- b. *Electronic Signature*: When applications are submitted through Grants.gov, the name of the organization applicant with the AOR role that submitted the application is inserted into the signature line of the application, serving as the electronic signature. The EBiz POC **must** authorize people who are able to make legally binding commitments on behalf of the organization as a user with the AOR role; **this step is often missed and it is crucial for valid and timely submissions.**

2. How to Submit an Application via Grants.gov

Grants.gov applicants can apply online using Workspace. Workspace is a shared, online environment where members of a grant team may simultaneously access and edit different webforms within an application.

For complete instructions on using Workspace, refer to: <https://www.grants.gov/web/grants/applicants/workspace-overview.html>

- a. *Create a Workspace*: Creating a workspace allows you to complete the application online and route it through your organization for review before submitting.
- b. *Complete a Workspace*: Add participants to the workspace to work on the application together, complete all the required forms online or by downloading PDF versions, and check for errors before submission. The Workspace progress bar will display the state of your application process as you apply. As you apply using Workspace, you may click the blue question mark icon near the upper-right corner of each page to access context-sensitive help.
 - i. *Adobe Reader*: If you decide not to apply by filling out webforms you can download individual PDF forms in Workspace. The individual PDF forms can be downloaded and saved to your local device storage, network drive(s), or external drives, then accessed through Adobe Reader.

NOTE: Visit the Adobe Software Compatibility page on Grants.gov to download the appropriate version of the software at: <https://www.grants.gov/web/grants/applicants/adobe-software-compatibility.html>

- ii. *Mandatory Fields in Forms:* In the forms, you will note fields marked with an asterisk and a different background color. These fields are mandatory fields that must be completed to successfully submit your application.
- iii. *Complete SF-424 Fields First:* The forms are designed to fill in common required fields across other forms, such as the applicant name, address, and DUNS Number. Once it is completed, the information will transfer to the other forms.
- c. *Submit a Workspace:* An application may be submitted through workspace by clicking the Sign and Submit button on the Manage Workspace page, under the Forms tab. **Grants.gov recommends submitting your application package at least 24-48 hours prior to the close date** to provide you with time to correct any potential technical issues that may disrupt the application submission.
- d. *Track a Workspace Submission:* After successfully submitting a workspace application, a Grants.gov Tracking Number (GRANTXXXXXXXX) is automatically assigned to the application. The number will be listed on the Confirmation page that is generated after submission. Using the tracking number, access the Track My Application page under the Applicants tab or the Details tab in the submitted workspace.

For additional training resources, including video tutorials, refer to: <https://www.grants.gov/web/grants/applicants/applicant-training.html>

Applicant Support: Grants.gov provides applicants 24/7 support via the toll-free number 1-800-518-4726 and email at support@grants.gov.

3. Timely Receipt Requirements and Proof of Timely Submission

- a. *Online Submission.* All applications must be received by the due date established for the announcement. Proof of timely submission is automatically recorded by Grants.gov. An electronic date/time stamp is generated within the system when the application is successfully received by Grants.gov. The applicant with the AOR role who submitted the application will receive an acknowledgement of receipt and a tracking number (GRANTXXXXXXXX) from Grants.gov with the successful transmission of their application. This applicant with the AOR role will also receive the official date/time stamp and Grants.gov Tracking number in an email serving as proof of their timely submission.
- b. When MDA successfully retrieves the application from Grants.gov, and acknowledges the download of submissions, Grants.gov will provide an electronic acknowledgment of receipt of the application to the email address of the applicant with the AOR role who submitted the application. Again, proof of timely submission shall be the official date and time that Grants.gov receives your application.

- c. Grants.gov will provide either an error or a successfully received transmission in the form of an email sent to the applicant with the AOR role attempting to submit the application. The Grants.gov Support Center reports that some applicants end the transmission because they think that nothing is occurring during the transmission process. Please be patient and give the system time to process the application.

VII. Application Requirements

Official BEST Robotics Inc. Local Competition Hubs are limited to requesting funding for new kits and/or supplies to support competing teams from Title I schools only. Refurbishing existing kits (consumable or returnable parts) will not be supported by this grant opportunity.

The term *kit* is used to describe both the consumable and returnable items provided to each competing team, and kit contents are determined by BEST Robotics Inc.

The term *supplies* is used to describe the tools and materials necessary for the construction of the robot that are not included in the kit. Supplies may also be used to construct a playing field (or portion of a playing field) that will be provided to teams participating in the competition virtually from a location other than the Local Competition Hub.

Grant award recipients must be able to independently accomplish all required hub tasks, including kit preparation and distribution, without any involvement or additional funding from MDA.

VIII. Application Attachments

In addition to the SF-424 Form required by Grants.gov, each application must include the following documents (to be included on the Attachment Form).

Attachment 1: Hub Information and Funding

A document including, but not limited to, the following information:

- a. The hub's inaugural year
- b. Number of middle and high schools participating
- c. Number of adults, teachers, and students that participated in 2021. Number of teams for 2021
- d. The projected number of teams for 2022
- e. Number of new kits needed
- f. Itemized list of materials/supplies, include vendor, and how each item will be used and distributed
- g. Requested amount of funding
- h. Evidence for the need for materials (underserved populations, Title I schools, etc.)

Attachment 2: Support Letter 1

A signed support letter on official letterhead (internal) from physical site's senior leadership, such as the University President or Vice-President.

Attachment 3: Support Letter

A signed support letter on official letterhead (external) from BEST Robotics National Headquarters for the applicability of requested materials for team participation.

Attachment 4: Hub Contacts

A document listing the Hub's name and address, and the Hub Director's name, e-mail address, and phone number. This document should also include the Grant Coordinator's name, e-mail address, and phone number. Finally, this document should include a list of (potential) elementary, middle or high schools planning to participate in 2022 and a contact phone number for each.

Attachment 5: Post-Award Agreement

A signed letter of acknowledgement and agreement from the Hub Director on official college/university letterhead to provide MDA STEM with required post-award reporting. The letter should include demographic information, information briefs, videos, and/or photographs.

Attachment 6: SAM Certification

A certification that SAM information for the associated HEA is current.

Attachment 7: WAWF Certification

A certification that a WAWF account for the associated HEA is current.

Attachment 8: Support Letter Local Government (Optional)

A signed support letter(s) on official letterhead (external) from local and/or state government. Limited to three letters or less.

Attachment 9: Support Letter STEM Professional (Optional)

A signed support letter(s) on official letterhead (external) from STEM professional or technical nonprofit societies or organizations. Limited to five letters or less.

Attachment 10: Support Letter Local Industry (Optional)

A signed support letter(s) on official letterhead (external) from local (within hub service region) industry. Limited to five letters or less.

IX. Application Evaluation and Selection

MDA will evaluate and select applications based upon the following areas – **need, impact and support.**

- a. *Need (50%)*
 - i. Is it evident by the information provided by the hub that there is a true need for the supplies for the competing teams in Competition Year 2022?
- b. *Impact (30%)*
 - i. Is the hub's (potential) impact with elementary, middle and high schools to further STEM interests evident and feasible?
- c. *Support (20%)*

- i. Is it evident in the support letters and contact information that the Hub is managed or works closely with Higher Education Agency (HEA)?
- ii. Is the hub's expansion supported internally?
- iii. Is the hub's expansion supported externally?

NOTE: Evaluation of applications may result in funding levels lower than the proposed amount(s).

X. Award Administration

1. Award Notices

Successful applicants will receive a separate notice (award/acceptance letter or e-mail) stating that an application has been selected. The notification letter or e-mail must not be regarded as an authorization to commit or expend funds. The Government is not obligated to provide any funding for this award until a Government Grants Officer and the appropriate official from the selected entity sign the grant award document.

An award notification letter should be sent to all applicants by **June 5, 2022**. Events taking place before the award notification letter is sent are not reimbursable under this grant opportunity.

2. Reporting

On or before **November 6, 2022**, awarded hubs must submit the following information via email to STEM@mda.mil with the email subject as "MDA STEM Best Robotics Grant Kits 2022 - " followed by the hub name and grant number:

- Map of hub's service region identifying (using a map pinpoint dot) all competing teams' schools, with school name and city
- Completed MDA-provided reporting template to include:
 - Demographics for 2022 competition year, with annotated notes about significant differences which may be attributed to receiving the grant when compared to the 2021 demographics
 - Competition results
 - List of competing teams and contact information

Postmarked, on or before, **November 6, 2022**, awarded hubs must mail to the MDA STEM Office at MDA/STEM, c/o MDA/DV, Building 5224 Martin Road, Redstone Arsenal, Alabama 35898:

- Pictures as .JPG files on a CD:
 - 10 (minimum) – 30 (maximum)
 - Documenting Kick-Off Day, Practice (Mall) Day, Game Day and the MDA STEM logo on display
- Artifacts (if applicable), with the MDA STEM logo – programs, t-shirts, etc.

The lack of completion and/or submission of these documents can result in funding levels lower than the proposed amount(s).

MDA STEM will provide a post-award acceptance letter or email, providing acceptance of all reporting requirements and deliverables, to all applicants and necessary parties, by **November 20, 2022**.

3. Invoicing

For returnable and consumable kit expenditures, and subsequent WAWF invoice documentation, hubs must:

- a. Have separate receipts, expense documents, and/or invoices for items to be reimbursed through the grant; and
- b. Collectively, be within or below, the grant amount awarded.

In addition to the above, grant recipient hubs shall submit a request for payment in WAWF (cost voucher) for an amount which:

- a. Does not exceed the amount identified in the grant agreement;
- b. Is documented by the invoice(s) for new kits;
- c. Occurs after all deliverables, outlined in “Reporting” above, are received by the MDA STEM Office;
- d. Occurs after hub receives an approval letter or email for all reporting requirements and deliverables; and
- e. Occurs between **November 23, 2022** and **December 28, 2022**.

4. Administration and Payment

The cognizant Office of Naval Research (ONR) will serve as the administrative office for the awarded grant. The appropriate ONR office will be identified in the award document. ONR will approve the voucher and supporting documents. Visit the ONR website (<http://www.onr.navy.mil>) for more information on electronic payments for grants.

After ONR approves the voucher and supporting documents, ONR will forward the information to the Defense Finance and Accounting Service (DFAS) for payment. The appropriate DFAS office will be identified on the award document.

Both ONR and DFAS are completely separate entities from MDA. Awarded hubs **must**:

- a. Include MDA in all communications with ONR regarding payments;
- b. Include MDA in all communications with DFAS, if applicable;
- c. Forward to MDA e-mail confirmations regarding invoice submissions (whether rejected or approved) from ONR; and
- d. Provide to MDA a copy of all invoice documents and supporting receipts (kit orders, consumable kit receipts, etc.).

This will help MDA STEM provide assistance with any issues that might arise in the payment process.

XI. Agency Contacts

Questions about this grant opportunity should be directed to Luisa A. Martinez-Medina, Grants Officer at luisa.martinez-medina@mda.mil or the MDA STEM Office at STEM@mda.mil.