



# Artificial Intelligence Cyber Challenge (AIxCC)

## Rules

10/26/2023  
Version 3

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**Defense Advanced Research Projects Agency**  
Information Innovation Office



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## Document Change Summary

The AIxCC competition guidelines will be updated throughout the competition period (Fall 2023 – August 2025). Please check for updates regularly and send any questions or feedback to [rules-aixcc@darpa.mil](mailto:rules-aixcc@darpa.mil).

	Section	Description	Date
1	All	Initial Release	08/09/2023
2	1.4; 2.2	Schedule and Funded Track Applications SBIR deadline extended to Oct. 3, 2023	09/01/2023
3	1; 1.3; 1.3.1; 1.3.2; 1.4; 2.1; 2.2; 2.3; 3.1.1; 3.2.4; 3.3.2; 3.5	Schedule clarifications; SBIR re-opened with new deadline; Updated Open-Source Requirements	10/26/2023



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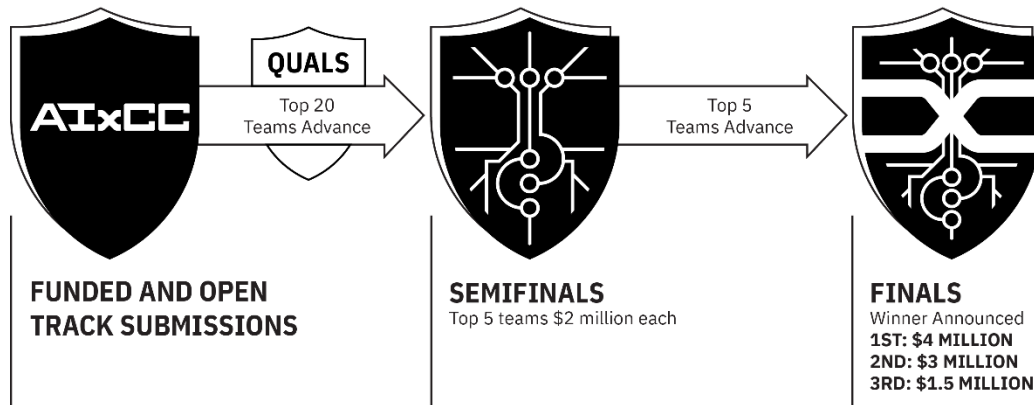
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## 1. Overview



### 1.1 Terms and Conditions

These Terms and Conditions (“Terms”) apply to the Defense Advanced Research Projects Agency (DARPA) AI Cyber Challenge (AIxCC) Challenge. Please read these Terms carefully as they form a binding legal agreement between you and the Challenge Sponsor. As owner of this document, DARPA may revise the Terms at any time by posting an updated version to the Challenge Website without notice.

**CHALLENGE SPONSOR:** Defense Advanced Research Projects Agency (DARPA) is sponsoring the DARPA AIxCC Challenge under the authority granted in 10 U.S.C. § 2374(a).

**CHALLENGE HOST "Challenge Website":** <https://aicyberchallenge.com/>

**YOU MAY NOT SUBMIT AN ENTRY TO A CHALLENGE UNLESS YOU AGREE TO THESE TERMS. YOUR SUBMISSION OF AN ENTRY IN THE AI CYBER CHALLENGE CONSTITUTES YOUR AGREEMENT TO THE CHALLENGE TERMS AND CONDITIONS.**

Full terms and conditions can be found here: <https://aicyberchallenge.com/terms-condition/>

### 1.2 Background

In an increasingly interconnected world, software undergirds everything from financial systems to public utilities. As this code enables modern life and drives productivity, it also creates an expanding attack surface for malicious actors. But advances in modern technology provide a path towards addressing the cybersecurity dilemma. The past decade has seen the development of



promising new AI-enabled capabilities. When used responsibly, this new technology has significant potential to help address key societal challenges, like cybersecurity.

The Artificial Intelligence Cyber Challenge (AIxCC) is a two-year competition asking the best and brightest in AI and cybersecurity to defend the software on which all Americans rely. AIxCC will ask competitors to design novel AI systems to secure this critical code and will award a cumulative \$18.5 million in prizes to teams with the best systems. In addition, to empower entrepreneurial innovation, DARPA will fund up to seven small businesses with up to \$1 million each to compete in the initial phase of AIxCC.

AIxCC will bring together leading AI companies that will work with DARPA to make their cutting-edge technology and expertise available for challenge competitors. These companies will collaborate with DARPA to enable competitors to develop state-of-the-art cybersecurity systems.

AIxCC is collaborating closely with the open-source community, to guide teams in creating AI systems capable of addressing vital cybersecurity issues, such as the security of critical infrastructure and software supply chains. Most software, and thus most of the code needing protection, is open-source software, often developed by community-driven volunteers. Further, open-source software comprises most of the code running on critical infrastructure in the United States today, including the electricity and telecommunications sectors.

AIxCC competitions will occur at one of the world's top cybersecurity conferences, DEF CON. The semifinal competition will be at DEF CON 2024, and the final competition at DEF CON 2025, where the top prize will be \$4 million.



## 1.2 Structure

AIxCC will consist of three competitions:

- May 2024: **AIxCC Qualifying Competition (AQC)**
- August 2024: **AIxCC Semifinal Competition (ASC)**
- August 2025: **AIxCC Final Competition (AFC)**

AIxCC will allow two tracks for participation: the Funded Track and the Open Track. Funded Track competitors will be selected from proposals submitted to a [Small Business Innovation Research \(SBIR\) solicitation](#) and up to seven small businesses will receive funding to participate. Open Track competitors will register with DARPA via the competition website and will proceed without DARPA funding.

Teams on all tracks will compete in the AQC, culminating in up to 20 teams advancing to the ASC. Of these, up to the top five scoring teams who show their ability to outperform not only the other teams but, a performance threshold based on the current state-of-the-art in software security will receive monetary prizes and advance to the AFC. The top three scoring competitors in the final competition, having outperformed the other teams and a performance threshold, will receive additional monetary prizes. Prizes cumulatively totaling \$18.5 million will be awarded across ASC and AFC.

Each AIxCC competition will feature challenges designed and evaluated by a team of subject matter experts. Teams will be given a large suite of challenges based on real-world critical open-source and critical infrastructure software. Teams will design AI-driven systems to find and fix vulnerabilities within these challenges.

AIxCC will partner with leaders in AI to make cutting edge AI technology available to competitors, such that competitors can leverage it within their solutions.

## 1.3 Prizes

All prizes are subject to the rules in Section 2.1 and Section 3.5.

### 1.3.1 Semifinal Competition Prizes

Up to the top five (5) teams will advance to the final competition and eligible teams will each receive \$2 million in prize money.

### 1.3.2 Final Competition Prizes

Up to three (3) eligible scoring teams in the AFC will be awarded prizes in the following amounts:

- 1st Place: \$4 million
- 2nd Place: \$3 million
- 3rd Place: \$1.5 million



#### 1.4 Schedule

Milestone	Date	Details
AIxCC Announcement	August 9, 2023	AIxCC is officially announced.
Funded Track SBIR Solicitation <b>Opens</b>	August 17, 2023	Refer to 2.2 Funded Track Applications
Funded Track SBIR Solicitation <b>Closes</b>	October 3, 2023 (updated)	Refer to 2.2 Funded Track Applications
<b>Funded Track SBIR Solicitation Reopens</b>	<b>October 26, 2023</b>	<b>Refer to 2.2 Funded Track Applications</b>
<b>Funded Track Reopened SBIR Solicitation Closes</b>	<b>November 9, 2023</b>	<b>Refer to 2.2 Funded Track Applications</b>
<b>Open Track Registration Opens</b>	<b>December 1, 2023 (updated)</b>	<b>Refer to 2.3 Open Track Applications</b>
AIxCC Kickoff Event	February 2024	AIxCC will host an information session with participating teams and potential competitors. Refer to 3.1.1 AIxCC Kickoff
<b>Open Track Registration Closes</b>	<b>April 30, 2024 (updated)</b>	<b>Refer to 2.3 Open Track Applications</b>
AIxCC Preliminary Events	Spring 2024	Refer to 3.1.3 Preparing for AQC





AIxCC Qualifying Competition (AQC)	Late Spring 2024	Refer to 3.1 AIxCC Qualifying Competition (AQC)
AIxCC Semifinal Competition (ASC)	August 2024	DEF CON 2024 Refer to 3.2 AIxCC Semifinal Competition (ASC)
AIxCC Final Competition (AFC)	August 2025	DEF CON 2025 Refer to 3.3 AIxCC Final Competition (AFC)



## 2. Competing in AIxCC

DARPA provides two parallel tracks for AIxCC Teams:

- **Open Track**
- **Funded Track**

While most participants will register to compete in AIxCC through Open Track, DARPA will fund up to seven (7) small businesses to compete in AIxCC.

Rankings in the AQC, the ASC, and the AFC will be based on the same technical evaluation criteria and scoring mechanisms for all competitors, irrespective of track.

Open Track and Funded Track teams that successfully pass the AQC will be invited to compete in the ASC.

Open Track and Funded Track teams that are invited to compete in the ASC and successfully pass the ASC will be invited to compete in the AFC.

Refer to 2.2 Funded Track Applications and 2.3 Open Track Applications for further information on the Funded Track and the Open Track, respectively.



## 2.1 Eligibility<sup>1</sup>

An AIxCC Entrant (Team) is comprised of an Entrant Official (U.S. Entity<sup>2</sup> or Individual), a Team Leader (Individual) and an optional set of team members (Individuals). Teams may enter under an official affiliation (e.g., a university or corporation). Teams may also have an official set of sponsors. Affiliations and sponsors must be disclosed.

AIxCC is open to team members and individuals of all nationalities, ages, academic institutions, and business entities, subject to the caveats below:

- An entrant may be an individual competing alone or a team representing an academic institution, business, or group of individuals. Each entrant must include at least one U.S. citizen or permanent resident. Entrants may enter under an official affiliation (e.g., a university or corporation). Entrants may also have an official set of sponsors. Affiliations and sponsors must be disclosed.
- Only one application per team shall be submitted.
- Each team must identify one Entrant Official and one Team Leader. The Entrant Official and the Team Leader may be the same individual. The Entrant Official must be a U.S. citizen or permanent resident and must speak English. The Entrant Official will serve as the official administrative point of contact for communications with the AIxCC organizers. The Team Leader must speak English and will serve as the official technical point of contact for communications with the AIxCC organizers.
- Each team is to be a wholly separate entity that does not share members/affiliations or sponsorship (financial interests) with any other team. Individuals cannot be members of multiple teams. Teams may have one or more sponsors. Teams may not collaborate or share their technical approaches and solutions with other teams. Teams who do not comply with these guidelines will be subject to disqualification.
- Teams consisting of individuals who were/are members of the same organization prior to AIxCC may be permitted to compete as long as the teams do not collaborate and do not share organizational sponsorship. Organizations that form to compete in AIxCC may only field one team.
- An entrant shall not be deemed ineligible because the entrant used Federal facilities or consulted with Federal employees during the contest if the facilities and employees are made available to all individuals and entities participating in the contest on an equitable basis.
- All participants (any individuals who enter the contest) under 18 years of age require written authorization of a parent or guardian. See Appendix A.
- For eligibility to win prizes, refer to Section 2.1.1 Prize Eligibility and Section 3.5 Open-Source Requirement.

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<sup>1</sup> This section specifically refers to eligibility to participate in Competition events; eligibility to receive prizes is based on 15 U.S.C. § 3719.

<sup>2</sup> Within this guidance, a U.S. Entity is defined as a private entity incorporated in and maintaining a primary place of business within the United States; see 15 U.S.C. § 3719(g)(3).



AIxCC Entrant (Team)					
Entrant (Team)	Entrant Official	Team Leader	Team Member(s)	Sponsor(s)	Official Affiliation
Required	Required	Required	Optional	Optional	Optional
U.S. Entity, Individual, or Individuals	Individual	Individual	Individual(s)	U.S. Entity or Individual(s)	U.S. Entity
<p>An entrant may be an individual competing alone, or a team representing an academic institution, business, or group of individuals. Each entrant must include at least one U.S. citizen or permanent resident.</p> <p>AIxCC participation by minors requires authorization by a parent or guardian.</p>	<p>If the entrant is a U.S. Entity, the team must identify an Entrant Official</p> <p>If the entrant is an Individual, Entrant Official is the same individual.</p> <p>An Entrant Official must be a U.S. citizen or permanent resident, and must speak English.</p> <p><b>This individual will serve as the official administrative point of contact for communications with AIxCC.</b></p>	<p>The Team Leader and Entrant Official may be the same individual.</p> <p>The Team Leader must speak English.</p> <p><b>The Team Leader will serve as the official technical point of contact for communications with AIxCC.</b></p>		Sponsors must be disclosed.	Affiliations must be disclosed



The following individuals and organizations are not eligible to participate in AIxCC competitions:

- Official Government entities (from the U.S. or any other country) are not eligible to participate as Entrants, Sponsors, or Official Affiliates. Government employees (from the U.S. or any other country) acting within the scope of their employment are not eligible to participate as Entrants, Entrant Officials, Team Leaders, Team Members, or Sponsors.
- Government Military members or Civilian employees may be eligible to participate if done so in their personal capacity and if the work performed for the contest is NOT related to their official government duties. Government members or employees should first consult their supervisors and designated agency ethics officials before participating in the contest. DARPA employees and support contractors, their spouses, dependents, and household members are not eligible to participate.
- Any personnel funded by DARPA to support AIxCC, or otherwise collaborating with DARPA in support of AIxCC, are not eligible to participate. This group includes any Federally Funded Research and Development Center (FFRDC) or Government personnel whose scope of work includes AIxCC architecture development.
- AIxCC Collaborators, entities that have entered into Cooperative Research and Development Agreement (CRADA) with DARPA for collaboration, support and/or advisement for AIxCC and their employees acting within the scope of their employment, are not eligible to participate as Entrants, Entrant Officials, Team Leaders, Team Members, or Sponsors.
- The Entrant Official and Team Leader cannot be listed on the U.S. Treasury Office of Foreign Assets Control - Sanctions Programs.
- Individuals, organizations or sponsors that are named in the Specially Designated Nationals list of the U.S. Department of Treasury are not eligible to participate.

Individuals should follow their parent organization's rules and regulations regarding outside activities.

DARPA reserves the right to disqualify a participant whose actions are deemed to violate the spirit of the competition for any reason, including but not limited to, the violation of relevant laws or regulations in the course of participation in the Challenge.



### 2.1.1 Prize Eligibility

The Government's obligation for prizes under AIxCC is subject to the availability of appropriated funds from which payment for prize purposes can be made. No legal liability on the part of the Government for any payment of prizes may arise unless appropriated funds are available to DARPA for such purposes. To be eligible for prizes, teams must first be registered. The award process requires recipients to furnish information that may trace or identify recipients either individually or as an organization (e.g., Social Security Number or Tax Identification Number). The Entrant Official of each registered team is responsible for providing the award information necessary for prize disbursement. DARPA will reach out by email to the Entrant Official of each registered team to either confirm their vendor status or request the required forms. DARPA is not responsible for disbursement of prizes to any team members other than the primary contact/organization. Prizes will only be issued in U.S. dollars and require the bank of the prize recipient to accept U.S. dollars.

## 2.2 Funded Track Applications

Funded Track competitors will be selected from proposals submitted to a Department of Defense (DoD) Small Business Innovation Research (SBIR) solicitation and up to seven (7) small businesses will receive funding to participate of up to \$1 million each. **See Section 1.4 for solicitation open and close dates.**

Funded track teams will be competitively selected on the basis of proposals submitted in response to a DoD SBIR 2023.4 (HR0011SB20234-17). See DoD SBIR 2023.4 (HR0011SB20234-17) for Funded Track deadlines and procedures related to submissions and selections. Funded Track teams receiving an award through DoD SBIR 2023.4 (HR0011SB20234-17) may not also participate in the Open Track.

Instructions for submitting proposals to this SBIR solicitation can be found at <https://aicyberchallenge.com/participate/>.

## 2.3 Open Track Applications

There is no fee for entry. Initial application materials will be made available on the AIxCC website (<https://aicyberchallenge.com/>). **See Section 1.4 for application open and close dates.**

Incomplete applications, including applications which fail to satisfy the requirements laid out in the application materials, will not be accepted. DARPA may disqualify any team that does not meet the requirements specified herein.



### 3. AIxCC Competitions

#### 3.1 AIxCC Qualifying Competition (AQC)

Competitors for the AIxCC Semifinal Competition (ASC) will be determined at the AIxCC Qualifying Competition (AQC). The AQC will be in late Spring 2024.

##### 3.1.1 AIxCC Kickoff

AIxCC will host a Kickoff event to serve as an information session in February of 2024.

##### 3.1.2 AQC Technical Paper

To compete in the AQC, applicants must submit a technical paper that outlines the team's technical approach in February 2024. The paper should include a discussion of the methodology and tools employed, the expected results and planned future directions after the AQC. This requirement aims to ensure that the participants have a coherent and well-defined plan for their project, and that they can convey their ideas effectively.

##### 3.1.3 Preparing for AQC

Competitors will have the opportunity to participate in at least one preliminary event that will be similar in format to the AQC. Success in the preliminary events will not be evaluated as part of AQC scoring. The event is an opportunity for competitors to gain an understanding of the format, procedure, and scoring mechanism to be used during the AQC. Preliminary events will be held in Spring 2024.



### 3.1.4 AQC Format

During the AQC, competitors will receive an identical corpus of challenges, Challenge Projects (CPs), modeled on real world, open-source projects. The CPs will contain vulnerabilities that must be identified and secured. The goal of the AQC is to create a fully autonomous Cyber Reasoning System (CRS) to find and correctly fix vulnerabilities within the CPs, without human assistance.

CPs for the AQC will consist of source code, and a modifiable build process and build environment that can be interacted with via standardized API. CPs will allow for CRSs to leverage either or both static and dynamic analysis techniques. Competitors will receive a score based on their ability to correctly find and correctly remediate vulnerabilities in the CP software.

For each CP, each Team's CRS will autonomously find and fix the CP's vulnerabilities, by providing a patch, or suggested software change, which correctly removes the vulnerable code and replace it with safe code. The patch will not remove any intended functionality of each CP.

The programming languages in which challenge projects will be written may include: C, C++, Java, Rust, Go, JavaScript, TypeScript, Python, Ruby, PHP.

Vulnerabilities within the CPs that must be found and remediated may include those which fall within the 25 classes of software weakness identified in MITRE's 2023 Top 25 Most Dangerous Software Weaknesses report.

At least 50% of the CPs will be written primarily in C or C++, and will focus on memory-corruption-related vulnerabilities.

The AQC Procedures and Scoring Guide, which will provide further detail on the format, challenge design, and scoring criteria for the AQC, will be released in Fall 2023.

### 3.1.5 Guidelines for AQC Scoring

The AQC Scoring Guide will be released in Fall 2023.

### 3.1.6 Advancement to AIxCC Semifinal Competition (ASC)

DARPA will invite up to twenty (20) teams to the ASC as Semifinalists based on their score during the AQC. Semifinalists invited by DARPA will:

- Achieve a top ranking, non-zero AQC score, and
- Have submitted an updated AQC technical paper detailing how the CRS performed during AQC accepted by DARPA.





## 3.2 AIxCC Semifinal Competition (ASC)

Competitors for the AIxCC Final Competition (AFC) will be determined at the AIxCC Semifinal Competition (ASC). The ASC will be held at DEF CON 32 in Las Vegas in August 2024.

### 3.2.1 ASC Format

ASC will be similar in format as the AQC. For further information, refer to the description in 3.1.4 AQC Format. The ASC Procedures and Scoring Guide will be released in Spring 2024.

### 3.2.2 Guidelines for ASC Scoring

The ASC Scoring criteria will be similar to the AQC Scoring criteria. The ASC Scoring Guide will be released in Spring 2024.

### 3.2.3 Advancement to the AIxCC Final Competition (AFC)

DARPA will invite teams to the AFC based on their score from the ASC. Up to five (5) teams will advance to the AFC as finalists. In order to attend the AFC, finalists invited by DARPA must:

- Have submitted an ASC Technical Paper accepted by DARPA,
- Have successfully demonstrated their system to DARPA during a site visit, and
- Achieve a top ranking, non-zero ASC score
  - Including outperforming a baseline of the current state-of-the-art, publicly available technology for vulnerability discovery and remediation.

### 3.2.4 ASC Prizes

Refer to Section 1.3.1, Section 2.1, and Section 3.5 for details regarding ASC prizes.



### 3.3 AIxCC Final Competition (AFC)

The AIxCC Final Competition (AFC) is scheduled to be held at DEF CON 33 in Las Vegas in late August 2025. The AFC Procedures and Scoring Guide will be released in Fall 2024.

#### 3.3.1 Winning AIxCC

DARPA will determine up to three (3) teams to win final prizes, based on their score in the AFC, subject to their ability to outperform the other teams and a performance threshold. To win prizes, the top three teams must:

- Have submitted an AFC Technical Paper accepted by DARPA,
- Have successfully demonstrated their system to DARPA during a second site visit, and
- Achieve a top ranking, non-zero AFC score
  - Including outperforming a baseline of the current state-of-the-art, publicly available technology for vulnerability discovery and remediation.

Following receipt and acceptance of final AFC Technical Papers from each winning team, DARPA will publicly announce, at most, the 1st, 2nd and 3rd place winners.

#### 3.3.2 AFC Prizes

Refer to Section 1.3.2, Section 2.1, and Section 3.5 for details regarding AFC prizes.

### 3.4 Technical Resources

AIxCC is collaborating with companies in AI and cybersecurity to provide resources to teams competing in AIxCC. Resource access will change depending on the stage of AIxCC. Teams on either track will have equal access to these resources. Collaborators are listed on the AIxCC website <https://aicyberchallenge.com>.

### 3.5 Open-Source Requirement

To be eligible for the ASC and AFC prizes and to compete in the AFC, competitors must release their competition submission as open-source software under a license approved by the Open Source Initiative (OSI).

This requirement applies to all source code and artifacts, including, but not limited to, models, for the Cyber Reasoning System (CRS) generated for, and used as an entry in, AIxCC. Pre-existing intellectual property (IP) that existed prior to the AIxCC kickoff date, or external, commercial products on which the CRS relies, are exempt from the open-source requirement.

Competitors must provide a link to the source code repository of their submission and indicate the chosen license in their ASC and AFC Technical Paper submission.



Competitors who fail to comply with this requirement will be disqualified from the AFC and continued participation in the competition following ASC.

Competitors in the Funded Track (AIxCC SBIR Topic performers) do not need to open-source their SBIR deliverables to be eligible for SBIR funding. However, they must comply with the AIxCC Rules to be eligible for AIxCC prizes and to compete in the AFC.



## 4. Scope and Precedence

The rules outlined herein apply to all applicants and participants in the AIxCC. However, nothing in these rules, to include this document and any subsequent AIxCC rules documents, may be interpreted as modifying the statement of work or authorizing work outside the terms and conditions of any existing agreements or contracts with DARPA.

DARPA will release additional documents with rules updates, procedures, and other information for teams. These additional documents carry the full authority of the rules in this document.

Additional documents to be released include the following, at a minimum:

### AIxCC Documents:

- AIxCC Master Schedule
- AIxCC Technical Paper Guidelines
- AIxCC Site Visit Procedures
- AIxCC Extended Application

### AIxCC Qualification Event (AQC) Documents:

- AQC Procedures
- AQC Scoring Guide

### AIxCC Semifinal Event (ASC) Documents:

- ASC Procedures
- ASC Scoring Guide

### AIxCC Final Event (AFC) Documents:

- AFC Procedures
- AFC Scoring Guide

All documents including this Rules document will be posted and updated on the AIxCC website <https://aicyperchallenge.com/>. All AIxCC documents including these Rules should be considered living documents, subject to update and clarification throughout the AIxCC program.



## 5. Acronyms

AIxCC	Artificial Intelligence Cyber Challenge
AFC	AIxCC Final Competition
AQC	AIxCC Qualifying Competition
ASC	AIxCC Semifinal Competition
CP	Challenge Project
CRS	Cyber Reasoning System
DARPA	Defense Advanced Research Project Agency
SBIR	Small Business Innovation Research