



# Team Qualification Guide

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# 1 Contents

1	Contents .....	2
2	Introduction .....	2
3	Human Subjects Research (HSR).....	2
4	Qualification Schedule .....	3
4.1	Team Qualification Window .....	4
4.2	Event Qualification Deadlines .....	4
5	Primary Triage Systems Team Qualification .....	4
5.1	Narrative.....	5
5.2	Additional documentation .....	6
6	Primary Triage Virtual Team Qualification .....	6
6.1	Narrative.....	6
7	Secondary Triage Data Team Qualification .....	7
7.1	Narrative.....	7
8	Prospective Competitor’s Qualification Checklist .....	8

## 2 Introduction

Prospective DARPA Triage Challenge (DTC) competitors must demonstrate track-appropriate performance capabilities to be eligible to participate in the DTC. All teams in all three competitions (Primary Triage Systems tracks, Primary Triage Virtual track, and Secondary Triage Data tracks, see the [DTC website](#) for track details) must complete two types of qualification: a Team Qualification at the beginning of each phase, and event-specific Event Qualifications for each Workshop and Challenge event. Successful Team Qualification is a prerequisite to Event Qualifications in the same phase.

This document will cover the Team Qualification requirements for Phase 1 of the DTC, which includes the first Workshop Event and the first Challenge Event (Challenge 1; see Figure 1). Later revisions will include updated Team Qualification requirements for Phases 2 and 3. Event qualification requirements will be released separately.

A team failing Team or Event Qualification may re-apply in a subsequent phase. This document is subject to change and may be superseded by later versions. The latest official versions of all documents will be posted to the [DTC website](#).

## 3 Human Subjects Research (HSR)

For the Primary Triage Competition, Systems teams must be included in the Independent Validation and Verification (IV&V) team’s Institutional Review Board (IRB) protocol to access training data collected by the IV&V team and to collect data at the DTC workshops and challenge events (see 5.2 for details). For the Secondary Triage Competition, use of training data provided by DARPA does not constitute HSR. For both

Primary and Secondary Triage Competitions, DARPA-funded competitors require DARPA approval for the collection or use of any other human subject data (note, the deadline for submission of proposals for DARPA-funding to compete in the DTC has passed). Self-funded teams are prohibited from the collection or use of any other human subject data as part of their involvement in the DTC because DARPA HSR supervision is not feasible for teams not under DARPA contract. Self-funded teams should carefully consider this limitation and should take this into account in their technical approach, leveraging other strategies as appropriate (e.g., simulations).

### Definition of Human Subjects Research (HSR)

The term “human subject” can be applied to research efforts that meet EITHER of the following criteria:

A living individual about whom an investigator (whether professional or student) conducting research:

- Obtains information or biospecimens through intervention or interaction with the individual, and uses, studies, or analyzes the information or biospecimens; or
- Obtains, uses, studies, analyzes, or generates identifiable private information, personally identifiable information, or identifiable biospecimens.

Human Subjects Research involves:

- Activities that include both a systematic investigation designed to develop or contribute to generalizable knowledge and involve a living individual about whom an investigator conducting research obtains information or biospecimens through intervention or interaction with the individual, or identifiable private information, or biospecimens.

## 4 Qualification Schedule

The Team Qualification window will take place at the start of each phase, and the Event Qualification will occur prior to each event, approximately 6-8 months after Team Qualification.

Qualification submissions will be reviewed on a rolling basis and must be submitted no later than the listed deadlines to be eligible to participate in the events. DARPA will review the submissions and notify teams of qualification status within 10 business days after the qualification deadline. Teams are encouraged to submit their materials well in advance of the qualification deadlines. DARPA may request additional information or a teleconference with a team about their submitted materials.

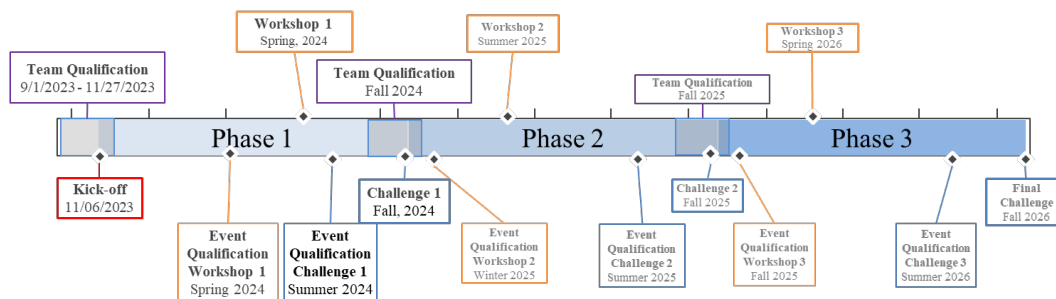


Figure 1: Competition Timeline. Dates for Phase 1 Event Qualification windows and Events, and Phase 2 and 3 Qualification windows and Events will be released later.

#### 4.1 Team Qualification Window

The purpose of Team Qualification is to demonstrate that a team has baseline capabilities necessary to perform successfully in the DTC Competition Events. The qualification window will open approximately 2 months before the start of each Phase and will remain open for approximately 3 months. Qualification submissions will be reviewed on a rolling basis and must be submitted no later than the listed deadlines. Teams are encouraged to submit their materials well in advance of the qualification deadlines. Teams that successfully qualify will be given access to the relevant competition materials; competitor portals, and additional resources starting at program kick-off.

Systems teams should be aware that it may take up to 2 months to process all relevant IRB documents prior to releasing training data. Teams wishing to ensure receiving access to training data as soon as possible after kick-off should submit all materials by 10/1/2023.

Teams wishing to qualify are required to submit team narratives and accompanying references and resources as outlined in the sections below. All qualification materials must be submitted via the [DTC Team Portal](#).

Team Qualification Windows by Phase	
Phase 1	9/1/2023 - 11/27/2023
Phase 2	Fall 2024
Phase 3	Fall 2025

#### 4.2 Event Qualification Deadlines

Prior to each Workshop and Challenge event, teams will be required to submit updated team narratives and demonstrations of successfully completing a series of qualification tasks to demonstrate track-appropriate performance capabilities. All qualification materials must be submitted via the [DTC Team Portal](#).

Additional details related to the qualification tasks will be released at a later date.

Event	Event Qualification	Event Date
Workshop 1	3/5/2024	Summer 2024
Challenge 1	Summer 2024	Fall 2024
Workshop 2	Winter 2024/2025	Winter 2024/2025
Challenge 2	Summer 2025	Fall 2025
Workshop 3	Winter 2025 /2026	Winter 2025/2026
Challenge 3	Summer 2026	Fall 2026

### 5 Primary Triage Systems Team Qualification

To qualify for the Systems Competition, teams must submit a description of their technical approach. DARPA will use the description to evaluate the team’s overall approach and potentially inform additional follow-up questions and/or tasks. Submissions will be reviewed for validity and qualifying competitors will be notified within 10 business days after the qualification deadline.

## 5.1 Narrative

The narrative description must include the following sections:

### Part 1: Team Information

- Team Name
- Team Organization(s)
- Team Point-of-Contact (name, email, phone number)
- Team Roster, i.e., list of all team members, their affiliations and email

### Part 2: Technical Approach (500 words max per subsection)

For each element of the Technical Approach below, DARPA will assess whether the plan is consistent with the rules and can successfully compete in the DTC.

- **Experience:**
  - Note any relevant experience in autonomous operation of mobility platforms and/or stand-off sensing of physiological features
- **Mobility Platforms**
  - Platform types (UGV and/or NDAA-Compliant UAV)) with specific models identified
  - Number of platforms (teams may field up to 5 at a time)
  - Weight and size of platforms (maximum of 9kg and 1.5m per UAV)
  - Fuel or energy sources and expected continuous runtime
- **Perception**
  - Stand-off sensors that will be used in your approach
  - Features the sensors will detect?
- **Autonomy** (5 platforms for a single operator by year 3)
  - High-level software architecture for navigation and search
  - Human operator interfaces
- **Data Transmission Method**
  - Clarify the networking solutions you expect to use for communication between the platforms and the base station.
- **Algorithms for Physiological Signature Detection**
  - Detail your plan for algorithms and list any existing software off of which you will be building.
- **Algorithm Training Methods**
  - Discuss your intended training methods and what if any additional data you intend to use.
- **End User interface**
  - Hardware
  - Displayed features
- **Safety:** The course is expected to have a number of live actors and physical obstacles. Describe your approach and measures to ensure safety during your participation in the

competition. Be sure to include descriptions of your approach to software emergency stops, hardware emergency stops, safety operators, and battery charging, monitoring, and storage.

### **Part 3: Data Handling Agreement and Safeguarding**

Competitors acknowledge DARPA’s mission-requirement and intent to safeguard privacy and civil liberties, and that sensitive or identifying data (including personally identifiable information (PII) or protected health information (PHI)) is not relevant to the DTC activities and that DARPA-provided datasets supporting those activities have been intentionally de-identified to ensure—to the greatest extent practicable—that there is no reasonable basis to believe that the data could be used to trace a specific identity or present a risk of harm to any individual. Accordingly, the DTC competitors agree they will *not* intentionally attempt to re-identify, share, or re-use DARPA-provided data.

The narrative description must be submitted via the [DTC Team Portal](#). Teams are welcome to attach a document with any diagrams, video clips, or images to support your narrative. Responses are expected to provide sufficient detail to differentiate your approach from other similar approaches.

At its discretion, DARPA may arrange follow-up teleconferences to discuss a team’s submission and/or request additional information about the submission to aid the review. DARPA retains the right to approve or deny team qualification based on materials submitted.

## **5.2 Additional documentation**

In order for qualifying systems teams to be included in the IV&V protocol and gain access to training data they will need to submit the following documentation: Investigator agreement, COI, CV and Collaborative Institutional Training Initiative (CITI Program) training. Delays in submission will result in significant delays in access to training data. Teams will have one week after notification of qualifying to submit the documentation. Further details on these requirements will be sent to qualifying teams.

# **6 Primary Triage Virtual Team Qualification**

To qualify for the Virtual Competition, teams must submit a description of their technical approach. DARPA will use the narrative description to evaluate the team’s overall approach and potentially inform additional follow-up questions and/or tasks. Submissions will be reviewed for validity and qualifying competitors will be notified within 10 business days after the qualification deadline.

## **6.1 Narrative**

The narrative description must include the following sections:

### **Part 1: Team Information**

- Team Name
- Team Organization(s)
- Team Point-of-Contact (name, email, phone number)
- Team Roster, i.e., list of all team members, their affiliations and email

**Part 2: Technical Approach** (500 words max per subsection) For each element of the Technical Approach below, DARPA will assess whether the plan is consistent with the rules and can feasibly compete in the DTC.

- **Experience:**
  - Note any relevant experience working in/with virtual environments
- **Perception:**
  - Sensors that will be used in your approach. The testbed is anticipated to have EO and IR at kick-off with additional sensor types added in each phase.
  - Sensors you would like to see added to the testbed
  - How you would use planned and proposed sensors to detect physiological features
- **Autonomy**
  - High-level software architecture
- **Algorithms for Physiological Signature Detection**
  - Detail your plan for algorithms and list any existing software off of which you will be building.
- **Algorithm Training Methods**
  - Discuss your intended training methods and what if any additional data you intend to use.
- **Workflow**
  - Software development workflow
  - Laboratory/computing resources

The narrative description must be submitted via the DTC Team Portal. Teams are welcome to attach a document with any diagrams, video clips, or images to support your narrative. Responses are expected to provide sufficient detail to differentiate your approach from other similar approaches.

At its discretion, DARPA may arrange follow-up teleconferences to discuss a team's submission and/or request additional information about the submission to aid the review. DARPA retains the right to approve or deny team qualification based on materials submitted.

## 7 Secondary Triage Data Team Qualification

To qualify for the Data Competition, teams must submit a description of their technical approach. DARPA will use the description to evaluate the team's overall approach and potentially inform additional follow-up questions and/or tasks. Submissions will be reviewed for validity and qualifying competitors will be notified within 10 business days after the qualification deadline.

In addition, teams are required to complete a small machine learning task on a dataset to demonstrate basic skills needed for the Data Competition.

### 7.1 Narrative

The narrative description must include the following sections:

#### **Part 1: Team Information**

- Team Name
- Team Organization(s)

- Team Point-of-Contact (name, email, phone number)
- Team Roster, i.e., list of all team members, their affiliations and email

**Part 2: Technical Approach** (500 words max per subsection) For each element of the Technical Approach below, DARPA will assess whether the plan is consistent with the rules and can feasibly compete in the DTC.

- **Workflow for handling large volumes of noisy multimodal data**
  - Data cleaning
  - Missing data
- **LSI predicting algorithms**
  - Detail your plan for algorithms and list any existing software off of which you will be building.
- **Algorithm Training Methods**
  - Discuss your intended training methods and what if any additional data you intend to use. Keep in mind the prohibition of HSR activity by unfunded teams.

**Part 3: Algorithm Development** Teams will be given a simple algorithm development task. The task will have data cleaning, training and classification aspects. We expect it to take several hours to complete as a part of entry requirements.

#### **Part 4: Data Handling Agreement and Safeguarding**

Competitors acknowledge DARPA’s mission-requirement and intent to safeguard privacy and civil liberties, and that sensitive or identifying data (including personally identifiable information (PII) or protected health information (PHI)) is not relevant to the DTC activities and that DARPA-provided datasets supporting those activities have been intentionally de-identified to ensure—to the greatest extent practicable—that there is no reasonable basis to believe that the data could be used to trace a specific identity or present a risk of harm to any individual. Accordingly, the DTC competitors agree they will *not* intentionally attempt to download, re-identify, share, or re-use DARPA-provided data.

The narrative description must be submitted via the [DTC Team Portal](#). Teams are welcome to attach a document with any diagrams, video clips, or images to support your narrative. Responses are expected to provide sufficient detail to differentiate your approach from other similar approaches.

At its discretion, DARPA may arrange follow-up teleconferences to discuss a team’s submission and/or request additional details about the submission to aid in the review. DARPA retains the right to approve or deny team qualification based on materials submitted.

## **8 Prospective Competitor’s Qualification Checklist**

- STEP 1: Submit your online Team Qualification materials to the [DTC Team Portal](#)
- STEP 2: Respond to any feedback/inquiries from the DTC team
- STEP 3: Wait to receive final notification from DARPA on your qualification status