Track A: Space-Based Detection and Intelligence

Round 3: Finals

Rules and Regulations v1.0

Released March 10, 2026

Introduction

These Rules and Regulations (R&R) are issued for the Finals Testing Round of XPRIZE Wildfire Track A: Space-Based Detection & Intelligence. This R&R is to supplement the Competition Guidelines (originally published April 21, 2023, superseded by Version 3.0 as of August 1, 2025), and this version of R&R also supersedes prior versions (March 2025; November 2024). While the Guidelines remain in full effect as the primary document governing the competition, at each round of the competition, this R&R is published to provide necessary operational details specific to that round of the competition.

These Rules and Regulations detail the concept, requirements, constraints, boundaries and directives of Finals Testing. All teams must adhere to this R&R at all stages of Finals Testing while they are actively participating. Failure to adhere to these R&R may result in consequences as detailed in the Competitor Agreement.

XPRIZE may revise these Rules and Regulations at any time during the course of the competition to provide additional information or to improve the quality of the competition. Future versions, amendments, technical notes, or other documents may continue to elaborate on the operation of the competition, including exact dates and locations of events, specific technical thresholds for performance testing, and operational information. XPRIZE will make all final determinations on safe and acceptable operating conditions for the competition. XPRIZE reserves the right to disqualify teams who are found to be operating in an unsafe or unethical manner, whether at official testing sites or at their own facilities.

All competing teams will be notified of revisions in a timely manner. Official updates will be communicated to team leaders by email. Submit any questions using the Team Questions Form, and send written communications to wildfire@xprize.org.

For the most updated version of the Rules, check https://www.xprize.org/competitions/wildfire and always remember to replace your files with the most recent versions of official documents.

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1. Test Plan

1.1. Introduction

The XPRIZE Wildfire Track A: Space-Based Detection & Intelligence Round 3 Finals is the ultimate test of teams' ability to achieve the winning team statement:

In the Space-Based Wildfire Detection & Intelligence track, teams will have one minute to accurately detect all fires across a landscape larger than entire states or countries, and 10 minutes to precisely characterize and report data with the least false positives to decision-makers on the ground.

Teams will be assessed on their speed and accuracy of detection of live fires across a large landscape. Teams will detect, observe, characterize, and report on fires across New South Wales (NSW), Australia over a defined period of time.

This document describes the Rules and Regulations that will govern this activity for competing teams.

The guidance on conduct of testing contained herein is for information only; authoritative information on the conduct of testing is found in the Testing Operations Guide.

1.2. Objective

The objective of this document is to communicate to all competing teams the requirements of the competition and the bounds within which they are to operate. This document complements the Finals Testing Operations Guide which was released on 10 February 2026.

1.3. Overview of Finals

Round 3 will occur in New South Wales[1] (NSW), Australia. Live fire will be established in a number of areas in a variety of sizes and topographies and teams will be required to detect and characterize the fire in accordance with Competition Guidelines (v3.0), Finals Testing Operations Guide (v1.0), and Rules and Regulations (v1.0).

Round 3 is a holistic assessment of teams' capability to achieve the winning team statement. The most important judging criteria, based on which the Grand Prize will be awarded, are the accuracy and precision of wildfire detection and intelligence across vast and remote areas in

[1] The Australian Capital Territory (ACT) is surrounded by NSW, but for clarity, no competition fires will occur in the ACT.

various conditions and challenging terrain. This will encompass speed, accuracy, quality, complexity/comprehensiveness, and actionability of observations. As well, teams will be required to demonstrate the ability to cost-effectively scale their solutions for global availability. Using their unique solutions, teams will deliver their analysis, intelligence and data on their target observations to XPRIZE. Teams will be encouraged to demonstrate as much of their capabilities as possible. Judging of these capabilities will involve quantitative and qualitative measures as judges must assess numerous different solutions to the wildfire problem.
Teams must demonstrate their end-to-end capability. This may include:

1.4. Roles & Responsibilities

The responsible party for each of these activities is listed below. This is not a comprehensive list; please contact XPRIZE if you have any questions about any activity.

Table 1: Responsibilities

Activity	Responsibility
Design and development of the Solution	Team
Coordination of Testing Location / Venue and operations of Finals Testing	XPRIZE + RFS
Deployment and setup of the Solution before any test and removal of the Solution after the end of testing including any unique hardware required	Team
Import/Export/Freight forwarding and storage of equipment	Team
Insurance of team owned equipment and personnel	Team
Cost of lodging, travel etc. for Teams	Team
Visas and immigration	Team (XPRIZE can support with letters or invitations)
Solution inspection and/or verification before and during testing	XPRIZE + Judging Panel
Providing judges access to systems and delivering all relevant testing data for consideration by the Judging Panel	Teams
Evaluation and scoring of Teams' solutions (based on test data and reports)	Judging Panel
Selection of winning teams	Judging Panel
Issuance of awards	XPRIZE

1.5. Test Timings

Test Window.
Testing is scheduled to occur in April 2026, with an expected testing window of April 9-21. Due to the use of live fire, testing can only occur within strict environmental parameters which will not be fully known until the day of ignition. Teams may plan to be onsite for setup not earlier than Tuesday April 7. XPRIZE will coordinate with teams to enable access.

Teams will be informed of ignition windows with reasonable notice. XPRIZE is unable to provide more fidelity than this as the information simply does not exist. Teams should remain ready to conduct observations during the period of testing.

Timeline of activities per burn	
Time	**Activity**
H	Ignition
H+1min (as close as possible)	Initial detection of fire as reported from Team's primary system ● Real-time delivery of OGC data to ArcGIS is optional (see assumption 8 below) ● Delivery of OGC data to ArcGIS required for daily report
H+11min (as close as possible)	Initial characterization of fire as reported from Team's primary system ● Real-time delivery of OGC data to ArcGIS is optional (see assumption 8 below) ● Delivery of OGC data to ArcGIS required for daily report
Every 15 min thereafter (or more frequently)	Characterization updates as reported from Team's primary system ● Real-time delivery of OGC data to ArcGIS is optional (see assumption 8 below) ● Delivery of OGC data to ArcGIS required for daily report
No later than H+2h	All teams notified that an ignition occurred within a specific Local Government Area (LGA). No further fidelity on time nor location will be provided.
H+12h	Last time to conduct/submit observations on that fire.
20:00 daily	Daily report due (as per Rule 10)

1.6. Testing Assumptions and Artificialities

In any testing, assumptions and artificialities may be necessary to complete testing in the time allotted and/or account for logistical limitations. Testing participants should accept that assumptions and artificialities are inherent in any testing, and should not allow these considerations to negatively impact their participation.

Assumptions
Assumptions constitute the implied factual foundation for the testing and, as such, are assumed to be present before the testing starts. The following assumptions apply to the testing:

1. **Live Fire Behavior Intelligence:** While critical to informing action, fire behavior cannot be measured accurately in real-time and is estimated on-site by wildland firefighters. Teams will generate a comprehensive characterization of fire behavior including perimeter, direction and rate of spread, and intensity in different parts of the fire.

2. **High-Resolution Detection:** Current fires visible from space are too large for effective response. Teams will demonstrate the ability to detect fires $10m^2$ in size and smaller, toward $1m^2$, while drastically cutting the false positives rate to 5%.

3. **Atmospheric conditions.** Wildfires involve inherently complex weather patterns. The selected burn locations may contain smoke and clouds. Post-ignition, fire-generated thunderstorms and pyrocumulonimbus clouds may obstruct direct observation of wildfires. Teams should expect and prepare for complex atmospheric conditions to be present in the planned burns. In addition to pure atmospherics, teams should reasonably expect burns to be conducted at all times of day, including day and night observations.

4. **Complex terrain.** Wildfires are prevalent in areas with steep terrain and dense vegetation. These characteristics inherently complicate the ability to directly observe ignition and fire behavior. Teams should expect and prepare for complex terrain to be present.

5. **False positives.** False positive readings (the misidentification of a hot object or surface as a fire) detract from current EO systems. False positives may result in misdirected resourcing (deploying firefighters to a rooftop solar panel) or the over-analysis of such an observation by a dispatch center. Reducing false positives contributes to the efficient use of resources by fire agencies. Teams should expect and prepare for false positives to be present during Finals.

6. **Near Real-Time Data:** Wildfire observation is inherently time-critical. Teams should anticipate the realities of space-based EO and plan accordingly.

7. **On-ground measurements:** RFS and XPRIZE do not have the ability to measure all fires within NSW on all days of testing. Firefighting and logistics assets must be operationally prioritized.

8. **Simulated integration with Fire Agency Infrastructure.** Judges will be using Esri products for the comparative analysis of teams' systems. As such, demonstration of OGC integration is expected from all teams (see section 3.2 and Rule 7 below). Prior to Finals Testing, teams will be empowered to liaise with Esri in order to develop the necessary API or other integration method. Teams have had comprehensive free access to a suite of Esri tools since prior to Semifinals testing and XPRIZE expects that at the commencement of Finals Testing, teams are capable of integrating data within Esri tools where required, even if the team's primary system resides outside of Esri.

– End of Test Plan –

2. Finals Application

Prior to participating in **Finals Testing**, teams will be required to submit materials as part of the Final's application process. The Finals application will provide documentation that is required by XPRIZE and RFS to plan and execute Finals Testing and evaluation of the team's technologies. The application will also contain materials and documentation to update the judges on the latest developments to the team's technologies and be used for the assessment and verification of the teams technologies and processes. The **Finals Application** deadline is *31 March 2026*.

Finals Application consists of the following submissions,

1. **Concept of Operations** (CONOPS). Include an overall system concept of operations diagram and write-up of processes which correspond directly with Finals testing toward meeting the goals of the competition. Include the entire end-to-end solution from detection, verification, characterization, and data delivery. Include information on the use and operation of the system in different weather conditions, terrain, and times of day/night. Teams may resubmit documentation from previous submissions with pertinent updates to accomplish this portion of the application. *Deadline: 31 March 2026*
   - Teams to use filename: **team name_ConOpsFinal**
   - *If you are submitting updates, please add _**updateDDMMYY** to the end of the filename.*
   - Charts and Diagrams are encouraged for illustrative supplements to written CONOPS.

2. **Quad chart of the Solution**. Quad chart with updated milestones and Technology Readiness Level (TRL)[2]. Template provided by XPRIZE. Teams are welcome to provide additional quad charts for each sub-system. Teams may resubmit documentation from previous submissions with pertinent updates to accomplish this portion of the application. To remain competitive, technology should be at a minimum of TRL-7 for finals testing. *Deadline: 31 March 2026*
   - Teams to use filenames:
     - Main Quad: **team name_QuadChartFinal**
     - Subsystem Quads**: team name_QuadChartFinal_subsys1(2 etc)**
     - *If you are submitting updates, please add _**updateDDMMYY** to the end of the filename.*

3. **System diagram**. Include a complete system diagram, including subsystems such as detection technology/sensors, telecommunications, control, transport/payload delivery, data analysis, AI/ML, data storage, alerting systems. Teams may resubmit documentation from previous submissions with pertinent updates to accomplish this portion of the application. *Deadline: 31 March 2026*
   - Use filename: **team name_Finalsysdiag**
   - *If you are submitting updates, please add _updateDDMMYY to the end of the filename.*

[2] *It is recommended that technology be at minimum of TRL 7 for Finals testing.*

4. **AI/ML Plan**. Artificial Intelligence and/or Machine Learning Plan. To include a flow diagram of the data analysis and wildfire verification process. Include methodologies used to identify false positives and a description of the algorithms used within the autonomous detection process and decision process to launch suppression systems. Teams are welcome to use their own format that can include research papers, white papers or technical descriptions provided all of the data requested within the AI/ML Plan Template (found using this link) is included. Teams may resubmit documentation from previous submissions with pertinent updates to accomplish this portion of the application. *Deadline: 31 March 2026.*

- Use filename: **team name_FinalAIplan**
- *If you are submitting updates, please add _**updateDDMMYY** to the end of the filename.*

5. **Personnel List**. List of personnel attending finals testing in Australia. Template provided by XPRIZE. Please contact Claudia Shekufendeh with your personnel list. *Deadline: 31 March 2026*

6. **ROM Cost.** Provide a rough order of magnitude cost for the deployed solutions used by the team in finals testing. *Deadline: 31 March 2026*

3. Rules and Regulations

3.1. Earth Observation Data Rules

The following rules constrain the source data types. The rules are established to provide standardization for all teams and to enable fair and equitable judging.

Rule 1	Observation from Space
Description	Observations of wildfires shall be made from Space. Of note, Space is defined as an altitude of 100km above sea level (the Kármán line) or greater.
Rationale	Earth Observation data could potentially be obtained from any altitude. XPRIZE (and partners) has identified that a major gap in global capability exists in low-latency, high accuracy space-based wildfire detection. To be explicit, HAPS, HALE, or other platforms obtaining EO data from lower than 100 km are excluded. Teams may use any EO data in order to train their systems prior to Finals Testing, but such data cannot be used during Finals Testing testing.

Rule 2	Legally-sourced data
Description	Earth Observation data shall be received legally and with the knowledge and permission of the source of the EO data.
Rationale	Whatever method teams select to source their EO data, the source of this data must know and give permission for this data to be used for this competition. No team is to hack or otherwise obtain data unknowingly from 3rd party sources. Failure to adhere to this code of conduct would be a violation of the Competitor Agreement.Teams should refer to the Competitor Agreement section 11.1.5 and Guidelines section 5.

Rule 3	Declaration of EO Sources
Description	Teams must declare their EO data sources.
Rationale	When delivering analytic results of their observed targets, teams must openly declare what sources were used to reach these findings. Information to be provided must contain, but is not limited to: ● name of the satellite/spacecraft ● altitude at time of observation ● payload type ● spectral information including: ○ resolution and range ○ overpass time of sensor footprint ○ spatial information (pixel element size)

	○ radiometric information including last known calibration Intended EO sources must be declared in teams' 1:1 meetings in the lead-up (prior to) finals. Daily Reports during finals must state the sources used during that day. The Final Report must identify which EO sources were used when, and on which fires.

3.2. Integration Rules

When addressing Integration Rules teams should maintain focus on end-user usability of data. Teams should endeavor to provide user-friendly intelligence; post-processing of data by the end-user is suboptimal and this will be reflected negatively in scoring.

While secondary to the main goals of the competition, demonstrating the ability of your system to integrate with a fire agency is also a priority for demonstrating system functionality. For finals, judges are performing the role of fire management agencies. For the purpose of this competition, ArcGIS Online is representative of a fire agency's existing infrastructure. Teams are strongly encouraged to consider integration into existing ecosystems and alignment with global best practices.

Teams should deliver information to judges as if they were the agency in question. The frequency of which you determine that is best for your system is up to you. *The OGC schema to use when sending data to ArcGIS will be promulgated in due course.*

Rule 4	**Visibility of Teams' Observation Data and Platforms**
Description	Teams must provide Judges and XPRIZE unrestricted access and visibility to their system and the data resulting from observations during Finals testing days.
Rationale	Teams' solutions (including independent systems, AGOL, and/or other methods through which teams display data) are the primary viewing point for Judges for the purposes of real-time assessments. In their role as representative fire managers, judges require access to teams' systems as if it was an operational system. Teams may provide logins, access to portals or websites, or a screen share of the system working. If a team would expect a fire manager to interact with their system, then this should be facilitated and provided. XPRIZE has provided opportunities and guidance for all teams to establish 1:1 calls

	with XPRIZE prior to Finals for this purpose.

Rule 5	Units
Description	All reporting is to use the International System of Units (SI) units.
Rationale	SI units remove ambiguity when receiving measurement data from many international sources.

Rule 6	Date/time format
Description	Dates and times are to adhere to ISO 8601.
Rationale	ISO 8601 removes ambiguity when receiving time and date data from many international sources. Teams may report in UTC or NSW local (UTC+10), Z or K time respectively. When doing so, teams should remain conscious of the fact that fire managers will be working in K / UTC+10.

Rule 7	End-user format
Description	Daily reports shall be output by the competing team in an Open Geospatial Consortium (OGC) format.
Rationale	XPRIZE will be using ArcGIS for comparative analysis of data provided by all teams, and against the ground data gathered by firefighters. Daily reports will be ingested into ArcGIS and XPRIZE requires the support of teams to achieve this. OGC file types are effectively the global standard in EO data and are used by fire and emergency management agencies broadly. Teams may choose to adjunct their data with information in other formats, however, submissions will be primarily assessed on GIS data. All reporting is to use the International System of Units (SI) units. Definition of OGC formats is available at https://www.ogc.org/standards/

3.3. Timings and Reporting Rules

The test window is currently 9 - 21 April, this window will become more accurate and finite as the weather forecast solidifies.

Teams are reminded of the specific timing metric provided in the Competition Guidelines. For the purpose of Finals, the 1, 10, 15 minute metrics are measured as follows:

Report & Timeframe	Comments	Delivery Method
1 minute identification	From initial detection to notification of fire manager (RFS/judges). The ambition is to identify all fires within 1 min of ignition, however this will be driven by overpass timings of particular satellites.	Teams systems are to be used. OGC data required for daily report; real-time OGC data is optional.
10 minute characterization	Within 10 min of identification, teams are to provide an initial characterization of the fire.	
15 min updates (ongoing)	Teams are to provide characterization updates every 15min (or more frequently), from initial detection through to detection+12 hours. The 12 hour timeline is indicative of a normal firefighting shift.	

Rule 8	Identification
Description	Teams shall detect all fires within the defined target area.
Rationale	Fire location(s) and behavior (size, intensity, rate of spread, etc.) will be known to XPRIZE to aid verification and validation. Teams must provide the most accurate time and location of initial ignition possible. Teams are reminded of the Competition Guidelines whereby they have one minute to identify fires. Teams will be scored based on the accuracy of their initial detection of fires. The only mandatory requirement here is to identify the fire(s) while minimizing false positive reporting. Any additional information provided (for example, early characterization) will be treated as enhancing characteristics of the team's submission.

Rule 9	12 hour monitoring
Description	Teams shall monitor all fires for 12 hours following initial detection.

Rationale	12 hours is representative of a typical fireground operational planning period. Most Hazard Reduction burns will not be attended for 12 hours, however, the risk of reignition cannot be discounted. The definition of 'out' is non-binary; categorising a fire as 'contained' or 'controlled' is a risk-based decision for the on-site Incident Controller who will rely on all systems at their disposal, including EO sources and systems, to make a determination.

Rule 10	**Daily Reporting**
Description	Teams shall provide a daily summary report of each test day, provided no later than 20:00h. This report shall be sent to wildfire@xprize.org, with the subject "XPWF-A <TEAM NAME> Finals Daily Report <DD MM YYYY>". The daily report shall include the information and follow the format **provided here**
Rationale	Daily reports provide background data and descriptions of fires observed during the test day. These reports will be used by judges to verify and validate EO data used through assessment of spacecraft orbits, ground tracks and downlink opportunities.

Rule 11	**Final Reporting**
Description	Teams shall provide a final report no later than 24 hours from closure of finals (teams will be notified of this exact time). This report shall be sent to wildfire@xprize.org with the subject "XPWF-A <TEAM NAME> Final Report". The Final Report shall follow the format here.
Rationale	The final report summarizes all team observations from the Finals test window. This is the teams' opportunity to provide detailed description and clarification of the system used and judged. This will provide adjunct information to that provided by real-time systems and is not required to be as succinct as Daily Reports (Rule 10).

3.4. Administrative Rules

Rule 12	**Attendance**
Description	A representative from each team must be available for contact by XPRIZE at all times during testing hours. attend Finals at RFS HQ. Teams are **requested** to have a minimum of one representative be in person at

	testing, with a maximum of five attendees permitted.
Rationale	Constant availability during testing hours is critical to ensure XPRIZE, RFS, and Judges are aware of your participation in finals, can successfully administer the testing and support your tech as needed, and to ultimately review and assess your team's performance In-person attendance provides the best communications between teams, judges, XPRIZE Operations and actual NSW RFS staff. Approval for non-attendance must be sought through wildfire@xprize.org no later than Friday 20 March 2026 (UTC+10). Teams without attendance will not be directly penalised, however, must accept the inherent risk associated with potential break downs in communications. Teams not attending in person must be contactable throughout the test window.

Rule 13	**Safety**
Description	Teams must comply with local occupational health and safety (or equivalent) regulations and laws in their jurisdiction.
Rationale	Operational health and safety is a fundamental consideration within this competition. Teams are responsible for operating safely and in compliance with local, regional and national occupational health and safety regulations and laws. Despite Finals Testing being a primarily online activity, teams must comply with applicable regulations and laws.

Rule 14	**Cooperation with XPRIZE Wildfire**
Description	Teams must cooperate with the XPRIZE Foundation and any official partner or representative to facilitate the conduct and verification of Finals Testing.
Rationale	By entering into Finals Testing, teams acknowledge that communications and cooperation are fundamental to the conduct of a successful Finals Testing. XPRIZE may request information from teams directly, including cooperation with scheduling and logistic planning and provision of requested technical details and performance or analytic data. XPRIZE will make every effort to cooperate with Finals Testing teams, communicate proactively and accommodate each team's specific circumstances within reason. XPRIZE reserves the right to disqualify teams for lack of cooperation during this process as per the Competitor Agreement.

Rule 15	**Business Plan**
Description	Teams must complete a business plan in accordance with the XPRIZE-provided format.

Rationale	Fundamental to the XPRIZE design is the ability to scale up prize solutions to contribute to global solutions. In this vein, teams will progressively build their business plan along with Developmental Check-ins. The purpose of the Business Plan is to set up teams for success in delivering a holistic, not just technological, solution to improving space-based EO support to wildfires. XPRIZE will provide teams with direction and guidance in developing this plan and this will be released alongside Developmental check-ins.

3.5. Judging Rules

Rule 16	**Contact with Judges**
Description	Teams may not contact Judges outside of XPRIZE-managed circumstances. Questions pertaining to opinions or interpretations of Competition Rules, Guidelines, or Testing Operations should be directed to XPRIZE, not the Judging Panel.
Rationale	While XPRIZE is the organizing body for XPRIZE Wildfire, XPRIZE does not interfere with the Judges' deliberations or decisions in any way. Judges are required to recuse themselves for any reason that might compromise the impartiality of their deliberations or decisions. Likewise judges are not responsible for establishing Rules, and Guidelines or Operations procedures and therefore are not positioned to answer on them directly. In some instances, the Judging Panel may require additional information from Teams and XPRIZE will facilitate these discussions as necessary. The Judging Panel retains ultimate discretion to declare the winners of the Competition and otherwise award all Prizes (subject to the Competitor Agreement). All judging decisions and opinions made by the Judging Panel are binding on both Teams and XPRIZE, and are not subject to review or contest. No judging decision may be challenged by a Team, and all Teams agree to abide by and refrain from any such challenge.

Rule 17	**Feedback from Judges**
Description	Judges are prohibited from providing feedback to Teams[3]. Judging decisions are final.
Rationale	This facet is not unique to XPRIZE Wildfire Track A. This constraint is true of all XPRIZE competitions.

—END OF RULES AND REGULATIONS—

[3] This facet is not unique to XPRIZE Wildfire, this is true of all XPRIZE competitions.