



XPRIZE  
RAINFOREST

# COMPETITION GUIDELINES 2.0

06/12/2020

## The Rainforest XPRIZE is governed by these Competition Guidelines.

Please send any questions or communications about them to [rainforest@xprize.org](mailto:rainforest@xprize.org). XPRIZE may revise these guidelines at any time during the course of the competition to provide additional information or to improve the quality of the competition. Unanticipated issues may also arise that will require modifications to these guidelines. XPRIZE reserves the right to revise these guidelines as it, in its sole discretion, deems necessary or desirable. All registered teams will be notified of any revisions in a timely manner.

Further details concerning the operation of the competition, such as exact dates and locations of events, specific technical thresholds for performance testing, and operational information will be published in the Rules and Regulations, Competitor Agreement, and other documents throughout the course of the competition. The Rules and Regulations will be developed by XPRIZE in consultation with the Advisory Board and Judging Panel and will be provided to all registered teams in advance of the events they govern.

The Competition Guidelines summarize the high-level requirements and rules of the competition and are a revision of those published at Launch.

### **NOTE:**

Bolded items are defined in Section 07: Glossary.



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01.

# COMPETITION OVERVIEW

Rainforests are the most diverse, complex, and imperiled terrestrial ecosystems on Earth. Straddling the equator, the largest and most iconic rainforests are in the Amazon, Congo Basin, and Southeast Asia, accompanied by smaller rainforests across North America, Oceania, Central America, Madagascar, Australia, India and elsewhere in the world. Although they cover less than 10% of Earth's surface, it is believed they support more than half of the world's plant and animal species. For example, 10 square kilometers of rainforest can contain 750 species of trees, 1,500 species of flowering plants, 400 bird species, and 150 species of butterflies<sup>1</sup>. Despite their critical importance to the livelihoods of indigenous communities, harboring immense biodiversity, regulating climate, and being the origin of most modern medicines, rainforests are undervalued, understudied, and overexploited.

Although not yet fully documented and quantified scientifically, an integral value of rainforests is their biodiversity. Remote sensing and in situ methodologies traditionally used to identify and catalogue biodiversity are labor and time intensive, often requiring lengthy field expeditions and subsequent analyses, impeding efforts to urgently gather timely data necessary to understand and protect the full ecosystem wealth of rainforests before they are lost forever. The rainforest is dense, vast, and home to notoriously harsh environmental conditions, all presenting barriers for current technology and research. Moreover, against a backdrop of short-term economic gains contributing to deforestation, it is a significant challenge to inspire innovation, investment, and exploration to catalyze new understandings that document the true role of rainforests in sustaining life on planet Earth.

The \$10 Million Rainforest XPRIZE is a five-year competition to enhance our understanding of the rainforest ecosystem.

The competition challenges innovators from around the world to develop novel technologies that can rapidly survey rainforest biodiversity and use data to deliver new **Insights** that promote the health and conservation of this vital ecosystem. In alignment with the Convention on Biological Diversity<sup>2</sup>, successful technologies developed in the competition will demonstrate capabilities that include improved survey speed, autonomous operations, the ability to survey multiple stories of the rainforest, innovative detection methodologies, and rapid data integration to provide new Insights, in unprecedented detail.

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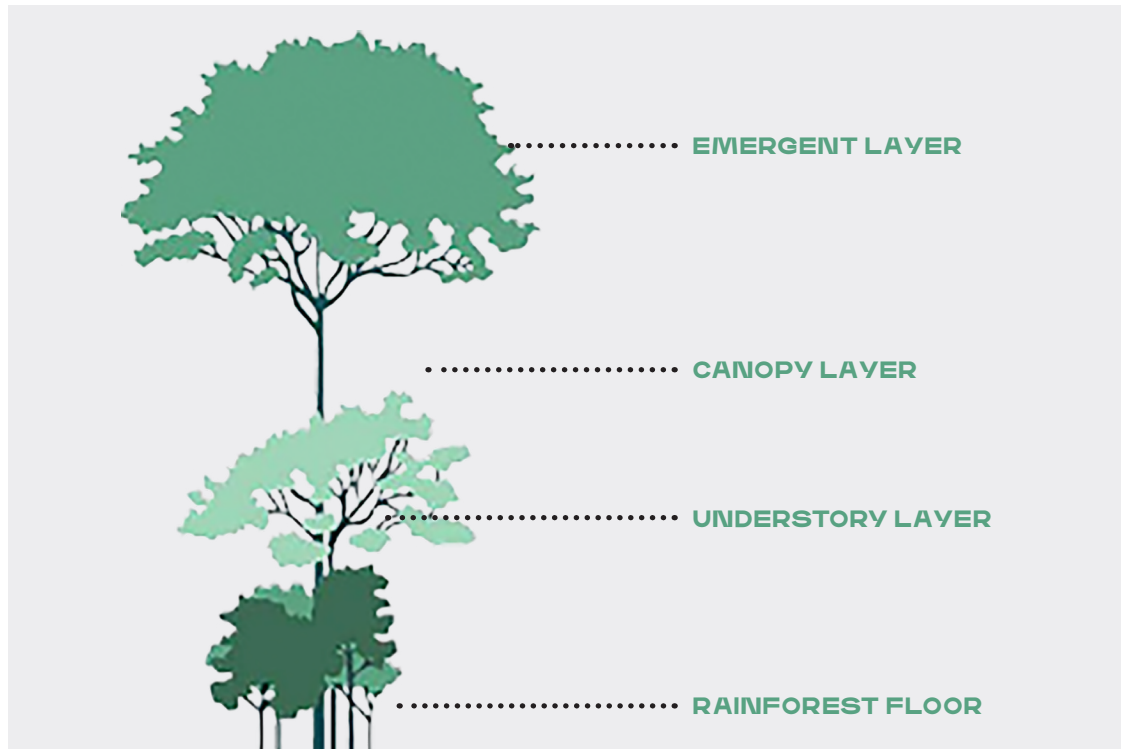
<sup>1</sup> <https://www.nationalgeographic.org/encyclopedia/rain-forest/>

<sup>2</sup> <https://www.cbd.int/convention/>



For the purposes of this competition, the rainforest will be divided into four stories: the **Forest Floor**, the **Understory Layer**, the **Canopy Layer**, and the **Emergent Layer** (Figure 1).

Figure 1: Four stories in a rainforest



Teams will have a limited period of time to explore an area of rainforest and produce: (1) a biodiversity assessment of the rainforest; and (2) Insights from integrating multiple sources of data to document the value of the standing forest and inspire educators, students, policymakers, and entrepreneurs to work with local communities to live sustainably with the rainforest. Insights may include, but are not limited to, new ecological dependencies, biodiversity and climate connectivity, undiscovered threats, anthropological findings, or sustainable societal interactions with the forest.

Teams will be evaluated based on their engagement with indigenous or local communities within a rainforest, or an academic institution from one or more of the countries that contain a rainforest. Engagement may include participation as a team member, team advisor, team collaborator, etc.



## 02.

# COMPETITION STRUCTURE

The competition is structured into three rounds over 5 years. Following testing portions of the competition, additional time and resources will be committed to amplifying the impacts of the Rainforest XPRIZE as displayed in Table 1.

Table 1: Competition Calendar

<b>November 19, 2019 – Prize Launch</b>	Team Registration Opens and Draft Guidelines Available for Public Comment
<b>December 22, 2019</b>	Competition Guidelines Public Comment Closes
<b>April 22, 2020</b>	Competition Guidelines Released
<b>Q4 2020</b>	Draft <b>Rules and Regulations</b> Released
<b>October 15, 2020</b>	Early Registration Deadline
<b>March 15, 2021</b>	Regular Registration Deadline and Qualifying Round Begins
<b>Q2 2021</b>	In-Person Team Summit
<b>May 13, 2021</b>	Qualifying Submission and <b>Competitor Agreement</b> Deadline
<b>Q3 2021</b>	Qualified Teams Announced (up to 50 teams)
<b>Q3 2021 – Q2 2022</b>	Qualified Teams <b>Solution</b> Development
<b>Q2 2022</b>	Discretionary Late Registration Closes and Semifinal Submission Deadline
<b>Q3 2022</b>	Semifinalist Teams Announced (up to 25 teams)
<b>Q3 2022 – Q1 2023</b>	Semifinalist Teams Solution Development
<b>Q1 2023</b>	Semifinal Team Verification
<b>Q1 2023 – Q2 2023</b>	Semifinal Testing and Judging



TABLE 1: Competition Calendar (Continued)

Q2 2023	Finalist Teams Announced (up to 10 teams)
Q2 2023 – Q2 2024	Finalist Teams Solution Development
Q2 2024	Final Team Verification
Q3 2024	Finals Testing and Judging
Q3 2024	Final Award Ceremony and Winners Announced
Q3 2024 – Q4 2025	Scaling Impact

**Note:** The above dates are subject to change.

## TEAM REGISTRATION

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XPRIZE believes that solutions can come from anyone, anywhere. Scientists, engineers, academics, entrepreneurs, and other innovators from all over the world are invited to form a team and register to compete. To participate, a team is required to first create an account in the **Prize Operations Platform (POP)**. POP is an online platform through which teams will register for the competition, pay the required registration fee, and submit important documents throughout the competition. Teams are expected to maintain their POP profiles throughout the competition, ensuring their profile is up to date with the most recent team information.

Early Registration opened on November 19, 2019 with a registration fee of \$500 (USD). The Early Registration deadline is October, 15, 2020.

The registration fee for teams who register by the Regular Registration deadline of March 15, 2021, is \$1,000 (USD).

XPRIZE has sole discretion to register and qualify additional teams between March 15, 2021 and the Discretionary Late Registration deadline (in Q2 2022). Teams that register during this period must meet all applicable registration and submission requirements and pay a late registration fee of \$1,500 (USD). This is a limited opportunity and potential teams should contact XPRIZE directly for more details.

**Interested Teams** and individuals are encouraged to collaborate and share skills. A team may recruit additional experts and can add new members to their team at any time throughout the competition. Teams may also merge with other teams during the competition. Teams must notify XPRIZE of a merger before it takes place. Additional details regarding team mergers are provided in the Competitor Agreement.

Throughout the registration period, XPRIZE will host a series of webinars for all Registered Teams. XPRIZE webinars will allow teams to get to know each other and also to receive important competition updates. Participation in these webinars, while not mandatory, is strongly encouraged.



## QUALIFYING SUBMISSION

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Two months after the Regular Registration deadline, each team will be required to submit technical documentation detailing their approach and proposed technologies in the form of a **Qualifying Submission**. The Qualifying Submission will be reviewed by the **Judging Panel** to determine which teams will move forward and compete in subsequent rounds of the competition. This submission is also intended to inform XPRIZE and the Judging Panel about potential operational requirements or risks related to testing for this competition. XPRIZE encourages teams to begin designing their technologies at the earliest opportunity in preparation for the Qualifying Submission.

The Qualifying Submission will include an Executive Summary outlining the team's **Solution**, approach for data gathering, and other technical details that demonstrate the team's ability to achieve the competition Testing Requirements (Table 2).

Teams must also include information on how they will use biodiversity data collected during the testing rounds, in conjunction with any external data obtained, to produce Insights that promote the health and conservation of rainforests. For all Qualified Teams, XPRIZE intends to provide access to various forms of data that may be of use to teams. More information about the team requirement to provide Insights throughout this competition can be found in Section 03: Testing Criteria.

The Qualifying Submission will be reviewed by the Judging Panel and up to 50 teams will be selected as Qualified Teams to compete in the Rainforest XPRIZE. The Competitor Agreement must be signed and submitted to XPRIZE prior to Judge review of any Qualifying Submissions.



## SEMIFINALS TESTING

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Qualified Teams will have approximately one year (until Q2 2022) to develop their Solutions and will provide another technical submission (**Semifinal Submission**) which the Judging Panel will review to verify each team's ability to participate in testing. This submission will likely entail both a written technical document and video demonstration of the team's Solution. The Judging Panel will review these submissions to select up to 25 **Semifinalist Teams** to advance in the competition and split the Milestone Prize of \$250,000 (USD).

Prior to participating in **Semifinals Testing**, teams will be required to submit materials to verify they are prepared to proceed in the competition. The **Semifinals Verification** deadline will be scheduled in Q1 2023.

Up to 25 Semifinalist Teams will physically demonstrate their Solutions in Semifinals Testing. During Semifinals Testing, teams must demonstrate that their autonomous Solution can operate in conditions similar to those found in a rainforest and detect biodiversity in at least one story (Figure 1), including the rainforest understory or forest floor. The general location for Semifinals Testing will be announced in advance so that teams may secure travel, shipping, and other logistical arrangements. However, to ensure a level playing field, the exact testing location will not be announced until shortly before Semifinals Testing.

XPRIZE currently anticipates the maximum **Time Limit** for each team to collect data during Semifinals Testing to be set at 6 hours. Teams will have an additional 24 hours to process their biodiversity data and demonstrate how they would produce Insights from all available data sources. Teams will submit a biodiversity survey of at least one story of the rainforest along with information on the Insights they anticipate to discover for the Judging Panel's evaluation (see Section 03: Testing Criteria for additional details).

Exact details for the Semifinals Testing will be released in the Rules and Regulations in advance of testing.

Following Semifinals Testing, the Judging Panel will select up to ten **Finalist Teams** to split a prize of \$2,000,000 (USD) and proceed to Finals Testing.





## FINALS TESTING

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Prior to participating in **Finals Testing**, teams will be required to submit materials to verify they are prepared to proceed to the final round of the competition. The **Finals Verification** submission deadline is tentatively scheduled for Q2 2024 (details TBD).

During Finals Testing, up to ten Finalist Teams will physically demonstrate that their autonomous Solution can operate in real-world rainforest conditions and can survey biodiversity in at least three (of the four) stories of the forest (Figure 1) at a testing location designated by XPRIZE. The general location for testing will be announced in advance of testing so that teams may secure travel, shipping, and other logistical arrangements. However, to ensure a level playing field, the exact testing location will not be announced until shortly before the Finals.

XPRIZE currently anticipates the maximum Time Limit for each team to collect data during Finals Testing to be set at 8 hours. Teams will have an additional 48 hours to process their biodiversity data and produce Insights discovered from the data obtained during testing and from external sources (see Section 03: Testing Criteria for additional information about this requirement).

Finalist Teams will submit their biodiversity survey along with a report on the Insights produced as a result of the competition for the Judging Panel's review (see Section 03: Testing Criteria for additional details). Finalist Teams will be evaluated based on their engagement with indigenous or local communities within a rainforest, or an academic institution from one or more of the countries that contain a rainforest. Engagement may include participation as a team member, team advisor, team collaborator, etc.

Following Finals Testing, the Judging Panel will convene to review the submissions, discuss the results, and determine the winners of the Grand Prize and the Bonus Prize. The winning team(s) will be announced at an Award Ceremony hosted by XPRIZE.

Testing format, the order for teams to test, and further information regarding the locations for testing will be provided in future releases of the Rules and Regulations and in advance of each round of testing.



### 03.

# TESTING CRITERIA

In order to be eligible for any **Prize Purse** during the competition, teams must meet or exceed all Testing Criteria requirements established by XPRIZE and the Judging Panel. Examples of the minimum requirements currently under consideration for Testing Criteria are summarized in Table 2. Teams will be scored based on performance above minimum requirements as described under Scoring Methodology below.

TABLE 2. Example Testing Criteria Minimum Requirements

TESTING CRITERIA	SEMIFINAL ROUND REQUIREMENTS	FINAL ROUND REQUIREMENTS
Forest Stories	One Story	Three Stories
Number of Phyla (or Divisions)	1	2
Number of Species	300 Species*	500 Species*
Accuracy of Known Species**	50%	75%
Identification and Documentation of New Insights	Not Required***	Required***

\* Minimum number of Species is currently an estimate subject to change; more information will be provided in the Rules and Regulations.

\*\* See Biodiversity Survey specifications elaborated below.

\*\*\* See Insights specifications elaborated below.

The **Competition Area(s)** for Semifinals and Finals Testing will be determined by XPRIZE. It is likely that only one team will have access to any specific Competition Area at a time, unless XPRIZE determines an approach to allow multiple teams in the Competition Area at the same time while maintaining safety and fairness for all teams.

Teams will deploy their Solutions from a **Base Station** close to the Competition Area, and during the testing, Solutions may operate within the forest and up to the maximum altitude at which unmanned aerial vehicles are allowed to operate (under existing local regulations at the time and in the region of the Competition Area).



During each round of testing, teams may deploy multiple systems, vehicles, and other technologies. Teams may not have any humans within the designated Competition Area. However, teams may employ humans outside the Competition Area and at the Base Station for:

- Assembly and maintenance of Solution in preparation for testing;
- Technology deployment and recovery;
- Remote-controlled operations and/or supervision of completely autonomous operations;
- Recharging, swapping, or refilling power sources;
- Receiving data transmissions and/or downloading data;
- Data analysis, including Species identification and
- Other necessary activities as approved by XPRIZE.

XPRIZE recognizes diurnal variability of Species and varying team operational requirements and will take these into consideration when planning Semifinals and Finals Testing.

As summarized in Table 3, XPRIZE currently anticipates the maximum Time Limit for data collection within the Competition Area to be set at 6 hours for Semifinals Testing and at 8 hours for Finals Testing. Data processing Time Limits are expected to be set at 24 hours for Semifinals and 48 hours for Finals Testing.

**TABLE 3. Summary of Anticipated Testing and Data Processing Time Limits**

TESTING ROUND	TESTING TIME LIMIT	DATA PROCESSING TIME LIMIT
<b>Semifinals</b>	6 Hours	24 Hours
<b>Finals</b>	8 Hours	48 Hours



Once the Time Limit clock starts, it will not be stopped if the Solution leaves the Competition Area for any reason, including returning to the Base Station to refill, swap, or recharge a power source.

Teams may not leave vehicles or other equipment in the Competition Area without prior written approval from XPRIZE and the Judging Panel. The competition intends to incentivize unmanned and autonomous technologies that will return to Base Camp without the use of human-operated assistance. In the event of an accidental loss of a Solution in the Competition Area requiring human-assisted recovery, or inability to recover the Solution within a reasonable timeframe, a team's overall score will be penalized at the Judging Panel's discretion. Unless otherwise stated, teams will be responsible for recovery of any Solution lost in the Competition Area.

Teams will be responsible for processing all data. Autonomous, manual, on-site or remote data processing is permitted within the allotted time. Teams may also transmit and process data during the survey testing if they have that capability. The Judges will be on site to observe the data processing and production of Insights.

There will be no physical connection between humans in the Base Station and the Competition Area. While the Solutions must function without a physical link to operators, untethered "connectivity" between the Base Station and the systems is welcome.

Throughout the competition, except during testing, teams are welcome to continue to develop, iterate, and adapt their Solutions.

Each team will be responsible for their own travel and for any costs associated with the transportation of their system. Teams may be required to attend a mandatory rehearsal period, as well as their scheduled testing day(s).

XPRIZE will produce detailed testing criteria in later releases of the Rules and Regulations.



## BIODIVERSITY SURVEY

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Teams must provide biodiversity survey data of the Competition Area during both the Semifinals and Finals Testing. The Judging Panel may also award additional points to teams that exceed minimum Testing Criteria requirements. This survey data will consist of:

➤ **Forest Stories**

The rainforest consists of four stories: the Rainforest Floor, the Understory Layer, the Canopy Layer, and the Emergent Layer (Figure 1). During Semifinals Testing, teams must survey biodiversity in at least one story, which must include the Rainforest Floor or Understory Layer. During Finals Testing, teams must survey biodiversity in at least three stories.

➤ **Number of Phyla (or Division)**

To understand the full ecosystem wealth of the forest, Solutions must ultimately be able to identify more than a single taxonomic category in their biodiversity data. During Semifinals Testing, teams must identify at least one Phylum (or Division). During Finals Testing, teams must identify at least two Phyla (or Divisions).

➤ **Number of Species**

The number of Species within a specific area provides a measurable metric on the ecological value of the rainforest. Teams must identify a minimum number of distinct Species based on the data they collected within the Competition Area to form part of their overall biodiversity survey data. More information regarding the collection of Species data will be provided in the Rules and Regulations. XPRIZE may require that one or more specified area(s) of the Competition Area are included in each team's survey. Teams may earn additional points by identifying a greater number of Species and/or identifying Species at a more detailed taxonomic level. Identification of microorganisms will not count toward a team's biodiversity survey.

➤ **Accuracy**

To ensure an accurate biodiversity survey, teams must correctly identify at least 50% of the previously known Species in the Competition Area in which teams are operating in Semifinals Testing, and at least 75% of previously known Species in the Competition Area in which teams are operating in Finals Testing.



## INSIGHTS

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Successful teams will use data they collect during testing and will combine it with other available data sources to produce new Insights that promote the health and conservation of rainforests. Insights may include, but are not limited to, new ecological dependencies, biodiversity, anthropological findings, undiscovered threats, climate connectivity, or sustainable societal interactions with the forest. Teams are encouraged to use artificial intelligence, machine learning, virtual reality, augmented reality, or other means by which to gain Insights.

› **Semifinals Testing**

During Semifinals Testing, teams must declare what types of Insights they expect to produce during Finals Testing, and demonstrate how they anticipate to produce these Insights using their biodiversity data for the final round of the competition.

› **Finals Testing**

During Finals Testing, teams must produce actual Insights (such as those identified from Semifinals Testing) within 48 hours following their data collection. Teams must demonstrate traceability from the Insights they produce to the biodiversity data they collected during testing. Both the number of Insights and amount of impact will be taken into consideration by the Judging Panel when evaluating team Insights.



## SCORING METHODOLOGY

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Teams that meet or exceed all Testing Requirements will be scored by the Judging Panel.

The total score for each round of testing will be comprised of two components:

- Biodiversity Survey Score; and
- Insight Score

The intent of this Scoring Methodology is to incentivize teams to demonstrate a truly multi-functional platform for biodiversity assessment and utilization of that data to discover new Insights that promote the health and conservation of rainforests.

Teams best positioned to win will maximize performance on both biodiversity surveying and producing Insights. As such, a team that only identifies a minimal number of Species, across few Phyla (or Divisions), is unlikely to win unless the Insights have great impact. Similarly, a team that identifies a very large number of Species but only produces a minimum number of new Insights is also unlikely to win unless the Insights are judged to have great impact.

The Grand Prize winning teams will survey the most biodiversity in at least three stories of a rainforest (emergent, canopy, understory, and forest floor) in an 8-hour period and use this data to produce the greatest number of new Insights after 48 hours.

In addition to the example criteria presented in Table 2, it is within the Judging Panel's purview to consider different or additional criteria that teams present after testing.

Some examples of additional criteria the Judging Panel may consider when evaluating teams include but are not limited to:

- measurements of soil, water, carbon, and/or other materials from data collected during testing
- consider total area covered by a team's biodiversity survey (i.e., with greater area counting for more points).

All requirements and testing criteria will be finalized and announced to teams well in advance of each round of Testing.

Further details regarding testing criteria, including the collection of Species data, system requirements, and shipping constraints for this competition will be provided in the Rules and Regulations.



## 04.

# PRIZES

The Rainforest XPRIZE Prize Purse totals \$10,000,000 (USD) and is divided as follows.

### **Milestone Prize**

A Milestone Prize purse in the amount of \$250,000 (USD) will be shared equally between up to 25 Qualified Teams whose Solutions are selected to advance to Semifinals Testing.

### **Semifinals Prize**

After completion of Semifinals Testing, a prize purse in the amount of \$2,000,000 (USD) will be shared equally between up to ten Finalist Teams whose Solutions received the highest scores from the Judging Panel for biodiversity assessment and potential for discovering impactful Insights.

### **Grand Prize**

After Finals Testing, XPRIZE will host an awards ceremony to announce the Grand Prize winning teams. A Grand Prize purse totaling \$7,000,000 (USD) will be awarded to the three teams whose Solutions receive the highest scores for assessing biodiversity and for the greatest number and impact of Insights discovered.

- The First Place team will receive \$5,000,000 (USD)
- The Second Place team will receive \$2,000,000 (USD)
- The Third Place team will receive \$500,000 (USD)

### **Bonus Prize**

A Bonus Prize Purse totaling \$250,000 (USD) may be awarded at the Judging Panel's discretion to one or more Finalist Teams whose Solutions demonstrate groundbreaking achievements.





05.

# ROLES AND RESPONSIBILITIES

## ADVISORY BOARD

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### A. Selection of Advisors

XPRIZE will appoint a panel of topical experts and big-picture thought leaders to serve as the Advisory Board for the competition. The Advisory Board will remain in place throughout the competition to advise XPRIZE regarding the scientific and other elements of the competition.

### B. Independent Advisory Board

The Advisory Board will be independent of XPRIZE and all teams and team members. No Advisor, nor any member of the Advisor's immediate family, shall participate, nor have any financial or other material interest, in XPRIZE, the Sponsor(s), and/or any team or team member. All members of the Advisory Board shall promptly disclose to XPRIZE any such current, former, or expected future conflict of interest with XPRIZE, the Title Sponsor, or any team or team member.

### C. Role of Advisory Board

The duties and responsibilities of the Advisory Board may include, but not be limited to: (i) assisting with the establishment of qualifications for prospective Judges; (ii) recommending members of the Judging Panel; (iii) assisting with development of testing protocols and judging

## JUDGING PANEL

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### A. Selection of Judges

The Judging Panel (as defined in the Competitor Agreement) will be comprised of highly qualified and impartial Judges with relevant subject matter and technical expertise.

### B. Independent Judging Panel

The Judging Panel will be independent of XPRIZE, the Title Sponsor, any other prize sponsors, and all teams and team members. No Judge, nor any member of Judge's immediate family, shall participate, nor have any financial or other material interest, in XPRIZE, the sponsor(s), and/or any team or team member. All members of the Judging Panel shall promptly disclose to XPRIZE any such current, former, or expected future conflict of interest with XPRIZE, the sponsor, and/or any team or team member.



### **C. Role of Judging Panel**

The duties and responsibilities of the Judging Panel will include, but not be limited to: (i) evaluating teams' compliance with the Competitor Agreement as they relate to prize operations, these Competition Guidelines, and the Rules and Regulations for the purposes of the competition; and (ii) the awarding of points and selection of teams that will proceed to each subsequent round of the competition.

### **D. Grounds for Judging Panel Decisions**

Official decisions made by the Judging Panel will be approved by a majority of the Judges that vote on each such decision after careful consideration of the testing protocols, procedures, guidelines, rules, regulations, criteria, results, and scores set forth in the Competitor Agreement, these Competition Guidelines, Rules and Regulations, and all other applicable exhibits to the Competitor Agreement. If any vote of the Judges results in a tie, then the Judging Panel shall determine, in its sole and absolute discretion, the mechanism to settle the tie. Similarly, if one or more teams are tied at any stage during the competition, the Judging Panel shall have the sole and absolute discretion to settle the tie.

### **E. Decisions of Judging Panel are Final**

The Judging Panel shall have sole and absolute discretion: (i) to allocate duties among the Judges; (ii) to determine the degree of accuracy and error rate that is acceptable to the Judging Panel for all competition calculations, measurements, and results, where not specified in the Rules and Regulations; (iii) to determine the methodology used by the Judging Panel to render its decisions; (iv) to declare the winners of the competition; and (v) to award the prize purses and other awards. Decisions of the Judging Panel shall be binding on XPRIZE, teams, and each team member. XPRIZE and teams agree not to dispute any decision or ruling of the Judging Panel, including decisions regarding the degree of accuracy or error rate of any competition calculations, measurements, and results. Teams shall have no right to observe other teams' testing or evaluation, or to be informed of other teams' calculations, measurements, and results, unless such information is made publicly available by XPRIZE.



06.

# ENVIRONMENT AND SAFETY

Safety is a top priority for this competition and to minimize the impact of the competition on the rainforest environment, Solutions must minimize environmental harm and ensure safety of participants and surrounding communities. All teams must comply with the following requirements:

- Teams will comply with all existing environmental, health, and safety regulations.
- Teams must design their systems to avoid impact on all forms of life – flora and fauna. Any emission of acoustic, electro-magnetic, laser, optical or other energy must be compliant with any existing regulations and best practices for the Competition Area.
- Teams may not use nuclear reactor power sources or in any way allow emission of harmful chemical or biological pollutants.
- Teams may not employ any form of life in their approaches to the challenge.
- Teams must minimize harm to any form of life in their approaches to the challenge. If a team's Solution might impact life, this must be declared and accepted by the Judges in the team's Qualifying and Semifinal technical submissions as well as prior to deployment in the Competition Area.
- Teams must recover equipment that is deployed within the Competition Area. Any disposable portions of the system must be declared and accepted by Judges as causing no harm prior to deployment in the Competition Area.
- Teams must research and obtain any necessary permits for operation in the Competition Area as it pertains to their particular Solution. XPRIZE will collaborate with teams in this activity.

Additional details on Environment and Safety will be provided in the Rules and Regulations. XPRIZE reserves the right to adjust the Competition Guidelines or Rules and Regulations based on the latest scientific and legal information available at the time to ensure personal and environmental safety. XPRIZE will make all final determinations on safe and acceptable operating conditions for Competition operations.



07.

# GLOSSARY

## **Advisory Board**

A select group of prominent advisors who contribute their wisdom, knowledge and guidance to various aspects of the prize.

## **Base Station**

A camp that teams will use to manage their operations and launch their Solution into the Competition Area during testing.

## **Competition Area**

The location selected and/or approved by XPRIZE to conduct testing.

## **Competition Guidelines**

Document for the public and for teams that describes the requirements and parameters of the competition.

## **Competitor Agreement**

A legal and binding document that details the responsibilities of competitors for the prize.

## **Finals Testing**

The last set of testing events for the prize that will determine the Grand Prize winning teams.

## **Finals Verification**

This is a mandatory update to ensure teams are prepared to proceed to Finals Testing. This will most likely consist of written and filmed components.

## **Insights**

Teams will use data they collect during testing in combination with other available data sources to produce new Insights that promote the health and conservation of rainforests. Insights may include, but are not limited to, new ecological dependencies, biodiversity, anthropological findings, undiscovered threats, climate connectivity, or sustainable societal interactions with the forest.

## **Judging Panel**

The subject matter and technical experts who serve as an impartial and independent evaluation team for all aspects of this prize. Judges score the team submissions and make the final award determinations in both the Semifinals and the Finals Competitions.

## **Operations Guide**

The Operations Guide will detail the policies and procedures for testing including test scenarios, event operations, logistics, shipping, safety and other details to effectively participate in testing events. There will be separate Operations Guides for Semifinals and Finals Testing.

**Prize Operations Platform (POP)**

The standard internal XPRIZE portal for teams to input data for use in this Competition.

**Prize Purse**

This refers to money offered, won, or received as a prize. It also refers to the overall amount of funds allocated to all prizes in this competition.

**Qualifying Submission**

This is a form in POP that must be completed by all Registered Teams. It consists of a series of questions to be answered that outline the expertise, capabilities and plans for the functional Solution that each team will be creating. It will also require an Executive Summary of up to two pages of text, and any supporting images, diagrams, or charts.

**Rules and Regulations**

Document detailing the testing protocols, specific rules, dates/times, and other details that will govern the competition and will be binding on teams.

**Semifinals Testing**

The set of testing events for the prize that will help determine which teams progress to Finals Testing.

**Semifinal Submission**

The process by which Qualified Teams demonstrate they are sufficiently advanced to progress in the competition as a Semifinalist Team. This submission will consist of written and filmed components which the Judging Panel will review to verify each team's ability to participate in testing.

This enrollment may include certain steps and questions to be answered by the teams, such as proof of insurance, attending team member lists, and other details about the logistics of Semifinals Testing.

**Semifinals Verification**

This is a team-provided update to ensure teams are prepared to proceed to Semifinals Testing and consists of written and filmed components which will be reviewed by the Judging Panel.

**Solution**

This refers to a team's specific system (including the operator interface, all sensors, software and mechanical parts) that will be used in the competition.

**Time Limit**

The maximum amount of time teams will be allowed to collect data during Semifinals and Finals



## TAXONOMIC CLASSIFICATIONS

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### **Species**

A group of related organisms or populations potentially capable of interbreeding in nature, and producing viable offspring. The Species is the principal taxonomic unit, ranking immediately below a genus.

### **Phylum**

In biology, a Phylum is a level of classification below kingdom and above class.

### **Division**

In botany, the term Division is often used instead of Phylum, although the International Code of Nomenclature accepts the terms as equivalent.

## TEAM DEFINITIONS

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### **Interested Team**

A team or individual that is interested in participating in the competition and has created a profile in the XPRIZE POP system.

### **Registered Team**

A team that has paid the required registration fee and is eligible to submit a Qualifying Submission for the Judging Panel's review.

### **Qualified Team (up to 50 teams)**

A team that has been selected by the Judging Panel from the pool of Registered Teams based on the strength of their Qualifying Submission.

### **Semifinalist Team (up to 25 teams)**

A team that has successfully completed the Semifinalist Selection and is approved by the Judging Panel to attend Semifinals Testing.

### **Finalist Team (up to 10 teams)**

A team that has successfully completed Semifinals Testing and is approved by the Judging Panel to attend Finals Testing.