**2023 NASA Entrepreneurs Challenge**

Technical Submission Template

Applicant Name:

Applicant Affiliation:

Technology Focus Area Chosen: *Lunar Payloads OR Climate Science*

**PDF Formatting Requirements**:

* Length:
* Up to 5 Pages for Round 1; Up to 10 Pages for Round 2
* Diagrams, graphs and pictures are counted within the page count
* No title page required
* Font
* Size 12 point of a standard font like Times New Roman or Arial (no condensed or narrow font).
* Smaller text is okay in tables, charts, figures, graphs as long as legible
* Page Layout and Spacing
* Minimum 3/4 inch margin
* Minimum single line spacing
* Section headers must be as described in this template:
* Section 1: Relevance, Impact & Significance
* Section 2: Innovation of Approach
* Section 3: Technical Credibility of Approach

**TECHNICAL SUBMISSION TITLE**

**SECTION ONE: *Relevance, Impact & Significance (30%)***

1. **Relevance to Challenge Technology Focus Area**
   * How does your approach align with the Challenge’s General Guidances for your selected Technology Focus Area provided on the [Challenge website](https://www.herox.com/NASAEntrepreneurChallenge)?
   * How does your solution directly address NASA's scientific objectives for the Technology Focus Area you have chosen? *(Your proposed solution should address one of the following Focus Areas, Lunar Payloads or Climate Science):*
     1. For Lunar Payload Solutions:
        1. Address how your solution can be reasonably manifested on a commercial lunar lander.
        2. Address how your proposed solution includes science instruments and/or technologies that align with NASA's [Moon to Mars Objectives](https://www.nasa.gov/sites/default/files/atoms/files/m2m-objectives-exec-summary.pdf) and/or the [Origins, Worlds, and Life: A Decadal Strategy for Planetary Science and Astrobiology 2023-2032 (particularly Chapter 22)](https://www.nationalacademies.org/our-work/planetary-science-and-astrobiology-decadal-survey-2023-2032).
     2. For Climate Science Solutions *(Choose one or both sub-topics as applicable to your proposed solution):*
        1. Sub-Topic 1: Climate Science Data Generation
           1. Address the quality of data needed to address decadal science. Describe what data is being targeted, for what purpose, and how it compares to the state of the art as described in the Earth Science Decadal.
           2. Address how you propose to acquire that data from hosted instruments on commercial satellites, e.g. improved calibration/validation of existing instruments or a new instrument. For either case, describe how the proposed approach would be commercially viable.
        2. Sub-Topic 2: Climate/Environmental Data Usage:
           1. Address the appropriateness of the proposed use of data sets and the proposed data processing methods to address a specific climate/environmental problem
           2. Address the required resolution and accuracy needed to mitigate the chosen climate/environmental problem
2. **Impact & Significance of Objective**
   * What potential breakthroughs or advancements can your solution offer to enhance NASA’s efforts in the Technology Focus Area and how does your solution improve NASA science or exploration capabilities?
   * What positive impact does your solution have to the broader science community?
     1. Does your solution benefit society at large, either through practical applications, inspiring new scientific endeavors, or fostering greater interest and engagement with NASA space exploration and research?
     2. If your solution is successful, how much of a difference will it make?

**SECTION TWO: *Innovation of Approach (10%)***

1. **Solution Novelty, Competition and Technology Superiority** 
   * How is the solution capability accomplished today?
   * What are the limitations of current practice and approaches?
     1. Consider costs.
   * How is your proposed technology superior to other possible solutions or current approaches?
   * What novel theoretical concepts, approaches, methodologies, instrumentation, or services does your approach utilize? (Note that the proposed technology can also enhance an existing approach or dramatically reduce its costs)​
   * Share how your team has leverage over competing solutions and companies? (Patents, IP, etc.)
   * Is there a significant cost advantage to using your approach as opposed to existing solutions and approaches?

**SECTION THREE: *Technical Credibility of Approach (20%)***

1. **Technical Feasibility** 
   * Provide a detailed description of your proposed technology.
   * Outline your executable approach to advance this technology to meet NASA needs.
   * Include a schedule with key milestones (may also include possible deliverables, concept report, prototype, brassboard design, etc.).
   * Consider and address operational constraints, the space flight environment, etc.
   * Discuss your method for the technology to be simulated, tested, and validated.
2. **Risks and Barriers** 
   * What are the roadblocks and limitations to your solution?
   * How does your team plan to overcome them?
   * Describe any technical challenges and risks you may encounter in your venture and explain how you plan to address and overcome them.