

Olive Leaf Initiative

2026 Global Scientific Payload and Intelligent Application Competition

Competition Guide (English)

Organizers: Zhejiang Lab, Xiong'an Science Park, and Hongqing Technology

Co-Organizers: Shanghai Fengyuzhu Culture Technology Co., Ltd., Shanghai Astronomy Museum (Branch of Shanghai Science & Technology Museum), Shenzhen Science & Technology Museum, etc.

April 2026

I. General Principles

Purpose of 2026 Global Scientific Payload and Intelligent Application Competition

Share Space Resources | Practice Open Science

By continually lowering the barriers to space experimentation, the Competition strives to ensure fair participation and equal opportunity for researchers, engineering teams, and innovators worldwide in advancing space science and application innovations.

To fulfill the mission of Olive Leaf Initiative—to share space resources and practice open science—we launch Olive Leaf Initiative: 2026 Global Space Payload and Application Competition (hereinafter referred to as the "Competition"). As an inaugural event of its kind, the Competition stands as a central pillar of the Initiative, calling globally for submissions of innovative space science payloads and intelligent space application proposals and solutions that demonstrate significant scientific value, engineering potential, and social relevance.

Positioned as a global public-interest scientific competition, the Competition focuses on two key domains: in-orbit experimentation of scientific payloads and validation of space intelligent applications. By providing open access to satellite payload, sample data, development environments, and collaborative engineering capabilities, we aim to deliver a seamless, end-to-end pipeline encompassing scientific innovation, engineering validation, and technology realization.

Proposals and projects selected through the review process will be included in the Scientific Payload and Application Innovation Repository dedicated to Olive Leaf Initiative, and granted priority for integration in in-orbit missions. Specific arrangements for in-orbit verification, engineering timelines, and resource allocation will be determined by the organizers, taking into account mission windows, engineering compatibility, compliance review, and resource availability.

II. Organizational Structure

1. Organizers

Zhejiang Lab, Xiong'an Science Park, and Hongqing Technology

2. Co-organizers

Shanghai Fengyuzhu Culture Technology Co., Ltd., Shanghai Astronomy Museum (Branch of Shanghai Science & Technology Museum), Shenzhen Science & Technology Museum, etc. *Additional co-organizers may be announced separately, subject to the official release.*

3. Review Committee

The Committee is expected to comprise experts in aerospace technology, space science, AI/data applications (from Zhejiang Lab), industrial commercialization, international cooperation, and science communication. Nominations may be submitted by Hongqing Technology, Zhejiang Lab, Xiong'an Science Park, platforms and institutions related to the aerospace industry, as well as international organizations such as UNESCO and partners within the science museum network.

4. Secretariat and Executive Mechanism

A Joint Working Group is established to serve as the executive body for the Competition, responsible for operations and daily coordination. Formed jointly by the three organizers, the Group is tasked with organizing the Competition, implementing rules, coordinating the review process, handling applications, disseminating results, and overseeing follow-up activities.

III. Participants and Eligibility

1. The Competition is open to participants worldwide, with no restrictions on nationality, age, or institutional background.

2. Participants include, but are not limited to: individuals, teams, universities, research institutions, enterprises, social organizations, and cross-institutional consortia.

3. The Competition features two professional tracks and one public track for space computing (tentatively named "Young Eagles Program"). The professional tracks include the "Scientific Payload Innovation" and the "Space Intelligence Application"; the public track for space computing is open to the general public, youth, science enthusiasts, individuals, school teams, and other innovators worldwide.

4. Each proposal may be submitted only once; with a limit of one submission per team or person. The same proposal may not be submitted to multiple tracks.

5. Language Requirements: Submissions may be in Chinese or English during the initial review stage. After passing the second review, participants must submit a Chinese abstract as required for unified review, presentation, and archiving.

IV. Competition Tracks

1. Scientific Payload Innovation

Hardware-based solutions designed for in-orbit verification, including scientific experiment apparatuses, sensors/devices, material verification units, small-scale payload prototypes, and other solutions for satellite or space payload testing.

2. Space Intelligence Application

Projects focused on the verification of models, algorithms, applications, and software, including in-orbit AI model verification, intelligent remote sensing applications, data processing algorithms, communication/navigation algorithm applications, digital twin/mission planning applications, and other intelligent space solutions.

3. Public Track for Space Computing (Young Eagles Program)

This track is open to the general public and focuses on soliciting creative space science concepts that demonstrate scientific inspiration, engineering imagination and incubation potential. Eligible proposals include creative applications combining AI and space technologies, innovative payload concepts, and small-scale designs with practical implementation potential. In line with the Competition's themes, the organizers will provide selected electronic components, basic technical resources, or thematic datasets at appropriate times to encourage participants to develop innovative designs that are "space-deployable, verifiable, and easy to communicate."

Track	Proposals	Areas of Focus
Scientific Payload Innovation	Scientific experiment apparatuses, sensors/devices, material verification units, small-scale payload prototypes, and other solutions for satellite or space payload testing	Definition of scientific problems, technical approach, engineering feasibility, and platform interface compatibility potential
Space Intelligence Application	In-orbit AI model verification, intelligent remote sensing applications, data processing algorithms, communication/navigation algorithm applications, digital twin/mission planning applications, and other intelligent space solutions	Data loop-closure, algorithm efficacy, in-orbit verification scenario design, resource rationality, and broad application potential
Public Track for Space Computing (Young Eagles Program)	Creative space science proposals, including AI-driven creative space applications, innovative space payload concepts, small-scale designs with practical implementation potential, and other public-oriented space innovations	Creativity, scientific rigor, communicability, social value, educational significance, and implementation potential

V. Thematic Focus and Priority Areas

1. Priority Areas

a. Space Science and Exploration: Includes payloads and applications for deep space exploration, space environment monitoring instruments and applications, etc.

b. Earth Observation Applications: Includes remote sensing payloads, environmental monitoring units, and related intelligent remote sensing applications supporting scenarios such as resource surveys, disaster warning and relief, climate change monitoring, marine environment observation, and smart city development.

c. Space Communications and Navigation Technology: Includes novel communication payloads, high-precision navigation augmentation payloads, and intelligent algorithms/applications for communication and navigation.

d. New Space Materials and Components: Includes lightweight high-strength structural materials, high-performance battery materials, and miniaturized sensors, etc.

2. Encouraged Directions

Projects centered on sustainable development goals, open science, in-orbit computing, low-cost rapid verification, interdisciplinary innovation, and industry-oriented commercialization will be given priority under equal conditions. In the public track for space computing, proposals that demonstrate a combination of scientific inspiration, engineering ingenuity, and potential for future incubation are especially encouraged.

3. Exclusions

- a. Projects that clearly conflict with established scientific principles or common sense;
- b. Projects weakly correlated to the space environment, in-orbit verification, or space applications;
- c. Projects that clearly exceed the platform's fundamental capabilities and lack a reasonable adaptation plan;
- d. Projects missing basic compliance documents or posing obvious safety or ethical risks;
- e. Projects involving duplicate submissions, plagiarism, IP infringement, or other violations of academic or professional integrity.

VI. Competition Schedule

Stage	Timeline	Description
Launch of the Competition	April 2, 2026	Release of the Competition Guide, registration instructions, and related information.
Inquiry and Formal Registration	April 2 – June 10, 2026	Participants may submit initial inquiries via the designated email, but all formal application materials must be submitted through the official online registration system.
Preliminary Review	June 10 – June 25, 2026	Evaluation is primarily based on the written application materials; projects advancing to the Final Review will be selected separately by track.

Final Review and Defense	June 26 – July 20, 2026	A hybrid evaluation will be conducted, including offline presentations in Xiong'an and synchronized online assessment.
Results Announcement	July 31, 2026	Announce the winners and projects selected for inclusion in the Innovation Repository.
Mentorship & Assignment	Commencing after Results Announcement	Organize mentorship, resource matching, and task assignment activities for projects included in the Innovation Repository.
Public Exhibition Events of the Young Eagles Program	August to September, 2026	Science and technology museums in three competition zones simultaneously hold exhibitions of outstanding works from the Young Eagles Program and organize interactive aerospace science related activities.

The Competition runs for approximately five months. The professional tracks follow a unified schedule. Any adjustments due to review arrangements, international coordination, or technical validation will be announced by Olive Leaf Initiative Committee. The public track for space computing generally aligns with the professional tracks. However, certain stages—such as exhibitions, submissions, or promotional activities—may be extended depending on public participation. All specific arrangements will be announced by Olive Leaf Initiative Committee.

VII. Registration Method and Submission Requirements

1. Registration Method

- a. The Competition adopts a two-step registration process:

Step 1: Online Registration via Official Website: Participants must first complete the registration process by entering their basic information through the registration portal on the official website.

Step 2: Formal Submission of Application Materials: Upon successful online registration, participants are required to compile and submit their complete preliminary review materials as a package to the designated email address no later than 24:00 on June 10, 2026. A registration is only considered formally completed upon receipt of the full application via email. Submissions received after the deadline will not be accepted.

- b. Official Website: oliveleaf.org.cn
- c. Inquiry Email: oliveleaf@zhejianglab.org
- d. Participants may direct any inquiries to the designated email address prior to submission.

2. Requirements for Preliminary Review Materials

- a. Application Form;
- b. Project Proposal: recommended body text length: 15 pages or less, excluding cover page and appendices;
- c. Technical Summary: in Chinese or English; recommended length: 800–1,500 words;
- d. Team Introduction and Profiles of Core Members;
- e. Statement of Open Science Value and Social Impact;
- f. Statement of Anticipated Resource Support, e.g., payload space, data, computing power, interfaces, ground testing service, etc.

3. Requirements for Final Review Materials

- a. Complete Project Proposal;
- b. Oral Defense PowerPoint Presentation;
- c. Video Demonstration Materials (if applicable);
- d. Prototypes, Simulation Results, Test Records, or Preliminary Review Documentation;
- e. Other supplementary materials demonstrating project maturity, innovativeness, or foundational basis for implementation.

4. Formatting Guidelines

To facilitate the review and archiving process, ensure that all preliminary review materials are submitted in PDF format; each individual file should not exceed 20 MB in size. For final review and defense, in addition to the original PPT file, a backup PDF version of the PPT is strongly recommended. All files must be named using the following format: "Track – Project Name – Applicant Entity." Should the official website specify additional field restrictions or templates, the requirements published on the system interface shall prevail.

VIII. Technical Requirements and Compatibility Limits

1. Scientific Payload Innovation: Basic Parameter References

Parameter	Reference Range
Payload Mass	Generally ≤ 10 kg
Envelope Dimensions	Generally $\leq 200 \times 200 \times 100$ mm
Instantaneous Peak Power	Generally ≤ 200 W
Data Interface(s)	Ethernet, RS422, CAN, etc. (Subject to the Task Interface Document)

Power Interface(s)	28V, 12V, 28±5V, etc. (Subject to the Task Interface Document)
Note	The parameters specified above constitute the basic reference range for the public submission phase. The organizers may arrange a specialized technical review for projects with outstanding scientific or practical value.

2. Scope of Support for the Space Intelligence Application Track

Based on project maturity and task requirements, the organizers may—at their discretion—provide resource support such as sample data, application development environments, interface specifications, algorithm optimization, and simulation testing support. The specific nature, level of access, and scope of permitted use for all provided resources will be defined and communicated to shortlisted projects, subject to the capabilities of Olive Leaf Initiative partners including Zhejiang Lab.

3. Principles for Accessing Detailed Technical Documentation

Shortlisted projects that have successfully completed all required procedures will be granted access to detailed interface protocols, satellite construction specifications, environmental test protocols, and relevant engineering interface documents. Any additional technical requirements, compliance mandates, or sensitive parameters not publicly disclosed will be separately communicated by Olive Leaf Initiative Committee to relevant teams via supplementary notices, direct contact, or specific agreements.

IX. Review Mechanism and Scoring Criteria

1. Review Mechanism

- a. The Competition is structured in two stages: Preliminary Review and Final Review.
- b. Projects within the two competition tracks will be evaluated separately; no cross-track evaluation will take place.
- c. To advance to the Final Review, projects must be supported by prototypes, simulation results, test records, or other documentation demonstrating a tangible foundation for implementation; proposals that remain purely conceptual will not be eligible for the Final Review.
- d. The Competition Committee shall conduct evaluations in accordance with the principles of fairness, impartiality, and transparency. Where necessary, the Committee may organize additional inquiries, technical verifications, or expert re-evaluations.

2. Scoring Criteria

Projects will be evaluated across five dimensions: Scientific Value, Application Prospects, Social Impact, Technical Feasibility, and Engineering Adaptability. The Preliminary Review will focus primarily on assessing the quality of the proposal, as well as the clarity of the problem definition and technical approach. Building upon the preliminary assessment, the Final Review will further assess the basis of the prototype/simulation/testing, the quality of the oral defense presentation, and the conditions for subsequent implementation. The Competition Committee reserves the right to adjust the detailed criteria for the Final Review, provided that the core evaluation dimensions remain unchanged. Separate evaluation criteria will be established for the Young Eagles Program track.

X. Awards and Benefits

1. Proposals rated as "Outstanding" may be included in the Scientific Payload and Application Innovation Repository dedicated to Olive Leaf Initiative.
2. Priority access to subsequent in-orbit verification opportunities.
3. Guidance from experts, engineering consulting, and technical feasibility assessment support.
4. Data and platform support (tailored to project characteristics).
5. Opportunities for project showcase and public presentation, as well as ecosystem collaboration.
6. Facilitated connections to industry incubator resources, with implementation support from Xiong'an and other partner networks (subject to eligibility).

XI. Project Guidance and Subsequent Matching Mechanism

In principle, the subsequent workflow for selected projects is as follows: Selection and Inclusion in Repository — Project Assessment — Resource Matching — Task Coordination — Separate Execution of Implementation Agreements.

To facilitate the matching of projects with appropriate subsequent task windows, the Committee will organize project guidance, interface coordination, resource assessment, and delineation of implementation pathways based on each project's specific characteristics.

Please note that a project's progression to the substantive implementation phase is contingent upon several factors, including availability of task windows, technical compatibility, compliance reviews, and resource guarantees. Prior to commencing any substantive implementation work, all involved parties are required to separately conclude and execute the relevant implementation agreements, data agreements, or other necessary legal documents.

XII. Intellectual Property, Data Sharing, and Confidentiality

The original intellectual property associated with the submitted projects—as well as any pre-existing intellectual property within the submitted materials that is legally owned by the applicant—shall, in principle, remain the property of the applicant.

By participating in the Competition, the applicant consents to the non-commercial use of the project title, abstract, team name, and public-facing materials by the organizers. Such use shall be limited to reasonable contexts related to the organization of the event, project evaluation, results announcement, promotion, and demonstration of achievements. The organizers are expressly prohibited from unilaterally disclosing any information explicitly designated as confidential by the applicant.

For projects selected to proceed to the subsequent implementation phase, matters concerning the ownership of results, data usage, commercialization rights, joint development, and profit distribution shall be subject to negotiation among the relevant parties and formally stipulated in a written agreement.

Data generated from in-orbit verification shall, in principle, be openly shared in accordance with the principles of Open Science. To accommodate intellectual property protection, commercialization strategies, international cooperation mandates, and regulatory compliance, reasonable periods of confidentiality or data protection—or a tiered data access mechanism—may be established. Specific arrangements shall be governed by separate, specialized agreements.

During the submission phase, participating teams may designate specific information as confidential and must submit necessary explanatory statements simultaneously. Regarding content that is classified, sensitive, export-controlled, subject to data compliance regulations, or otherwise unsuitable for public disclosure, the organizers reserve the right to request the applicant to: provide supplementary explanations, revise the public-facing version of the materials, redact specific content intended for display, or undergo a specialized review. Where necessary, the parties may enter into a separate Non-Disclosure Agreement (NDA).

XIII. Disciplinary Policy and Dispute Resolution

All submitted projects must be original, lawful, and compliant with applicable regulations; they must be free from plagiarism, falsification, synthetic identity fraud, or infringement upon the legitimate rights and interests of third parties.

Participants are prohibited from submitting any content that is classified, unlawful, non-compliant, or in clear violation of ethics of science and technology or safety requirements. Should any such violation be identified, Olive Leaf Initiative Committee reserves the right to revoke the project's eligibility for participation, awards, or inclusion in the repository, and to pursue further legal or disciplinary action against the responsible parties.

Disputes concerning competition rules, eligibility, evaluation results, or the authenticity of submitted materials shall be handled in the first instance by the Secretariat of the Competition. Where necessary, the matter will be referred to Olive Leaf Initiative Committee or the Evaluation Committee for final adjudication.

Matters not covered by these Guidelines are subject to interpretation by Olive Leaf Initiative Committee.

Appendix: Directory of Registration Forms/Application Templates (To be Finalized)

No.	Name of Template	Key Content	Purpose
1	Registration Form	Proposal/Project Name, Competition Track, Applicant Entity, Contact Information, Country/Region, Contact Details, etc.	Online Submission & Basic Information Archiving
2	Project Proposal Template	Project Background, Scientific Questions, Innovations, Technical Roadmap, Maturity Level, Implementation Strategy, Resource Requirements, etc.	Core Materials for Preliminary Review
3	Technical Abstract Template	Project Highlights, Verification Objectives, Expected Outcomes, Open Science Value, etc.	Rapid Review & Public Presentation
4	Team Information Template	Team Composition, Responsibilities of Team Members, Past Achievements, Collaborative Foundation, etc.	Assessment of Team Capabilities
5	Final Oral Defense PPT Template	Project Overview, Technical Verification, Prototype/Simulation/Testing Basis, Implementation Plan, etc.	Standardized Visual Presentation for Final Oral Defense
6	Resource Requirement Checklist Template	Requirements for Payload Space, Interfaces, Power Supply, Data, Computing Power, Testing, etc.	Engineering Assessment & Resource Matching

Note: This directory serves as a suggested list of templates accompanying the current edition of the Competition Guide. The official formats, fields, and submission methods for all templates will be specified by the online registration system and any subsequent documentation released by Olive Leaf Initiative Committee.