

Access to Space for All Webinar



1st Round Webinar
Announcement of Opportunity
EXOpod CubeSat Deployment

31 July 2024







1) Please turn off your camera and MIC during the Webinar, and

Use Chat box to ask questions





2) After the Webinar, please help to respond to the **feedback questionnaire** for us to improve.

For any questions: unoosa-access-to-space@un.org



3) Please use the hashtag **#AccSpace4All #Exolaunch #EXOpod** and follow, like, and share **@UNOOSA** to help us promote this event!



















Time	ltems
16:00 - 16:05	Opening Remarks
16:05 - 16:15	Introduction to Access to Space for All Initiative by UNOOSA
16:15 - 16:25	Introduction to Exolaunch and EXOpod by Exolaunch
16:25 - 16:40	Introduction to the Announcement of Opportunity and Application Form by UNOOSA
16:40 - 16:50	Introduction to the EXOpod User Guide by Exolaunch
16:50 - 17:00	Questions and Answers



The goal of the Access to Space 4 All Initiative is to provide research and orbital opportunities for UN Member States to access space and to ensure that the benefits of space, in particular for sustainable development, are truly accessible to all



Background

The United Nations Office for Outer Space Affairs (UNOOSA) has conducted capacity-building activities such as conferences and training courses for almost the last 50 years, however, there is an increasing need to develop hands-on expertise related to access to space. To answer to that need, UNOOSA started to provide hands-on opportunities in collaboration with various partners for running experiments back in 2012 and in 2018 launched the Access to Space 4 All Initiative, which organizes the opportunity under three different tracks of increasing complexity:

- 1. Hyper/Micro-gravity track
- 2. Satellite development track
- 3. Exploration track

The Access to Space 4 All Initiative offers Member States a structured program for building hands-on capacity step by step, depending on the needs of each Member State to incrementally develop capabilities that will foster from education to job creation, from cutting-edge research to day-to-day applications, incorporating the principles of sustainable and responsible access to space.



HYPERGRAVITY AND MICROGRAVITY

Building capacity for conducting experiments in orbit



Hands-on opportunities in hypergravity and microgravity from ground to orbit



Open source tools bridging hands-on and education components



Education material for building up experiments

SATELLITE DEVELOPMENT

Building capacity that enables the development, deployment, and operation of satellites



Hands-on opportunities for satellite deployment



Open source tools bridging hands-on and education components



Education material supporting the whole life-cycle of satellites

SPACE EXPLORATION

Broadening the engagement in space exploration



Hands-on opportunities to engage in space exploration



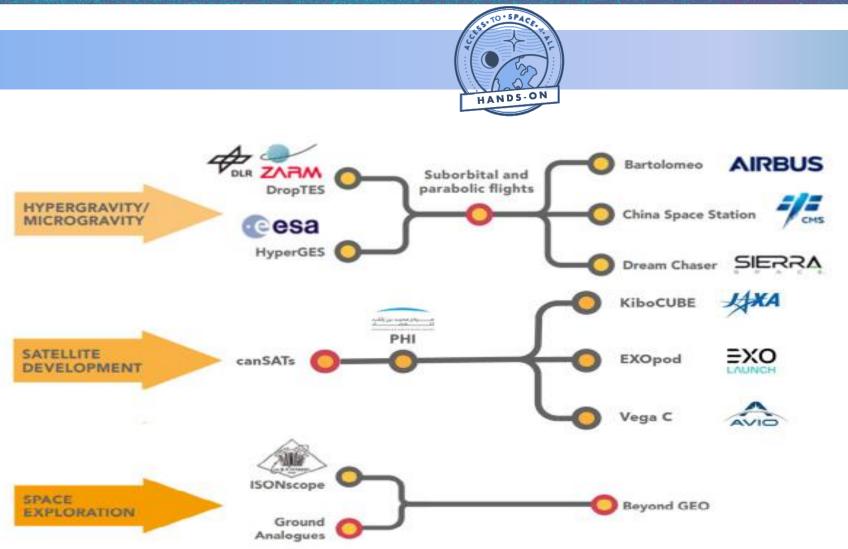
Open source tools bridging hands-on and education components



Education material for space exploration









- **Systems Engineering Webinar Series**
- Kibo-RPC











Access to Space for All Space Technology Capacity Building



The goal of the Access to Space 4 All initiative is to provide research and orbital opportunities for UN Member States to access space and to ensure that the benefits of space, in particular for sustainable development, are truly accessible to all



Acquire cutting-edge skills for jobs and other opportunities and **develop hands-on capabilities** from A-Z



Free of charge access to unique ground and space infrastructure, technology, and information



Gain international cooperation experience through working with the UN and space-faring partners



Visibility to the R&D and space activities already done in the country/region



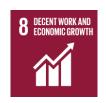
Motivate the young generation and **boost interest in STEM**

Access to Space for All in Numbers



- 1 Annual Fellowship
- 34 Awardees involving 47
 Entities from 34 countries
- 5 CubeSats launched
- 8 Microgravity and 3
 Hypergravity Experiments
- **16** projects in development
- 70+ Scholarships granted
- 100+ Hours of educational content on YouTube

























Access to Space for All





2014 German Jordanian University, Jordan

2015 Universidad Católica Boliviana "San Pablo", Bolivia

2016 Instituto Tecnólogico de Costa Rica, Universidad de Costa Rica, Costa Rica

2017 Warsaw University of Technology

2018 University of Bucharest and Politechnica University of Bucharest, Romania

2019 Politecnico de Milano "Polimi", Italy

2020 Universidad Católica Boliviana "San Pablo", Bolivia

2023 Universidad de Antioquia, Colombia

2024 Universidad de Central Venezuela

HyperGES

2020 Mahidol University, Thailand

2023 Macau University of Science and Technology, China

2023 Universidad Católica Boliviana "San Pablo," Bolivia

2024 University of San Carlos and Holy Name University, the **Philippines**

Bartolomeo



2021 A consortium composed of Egyptian Space Agency, Kenya Space Agency, and Uganda National Space Programme

PHI



2022 Antarikchya Prathistan, Nepal

2022 National Space Science Agency, Bahrain

KiboCUBE



2015 University of Nairobi, Kenya



2016 Universidad del Valle de Guatemala



2017 Mauritius Research and Innovation Council



2018 Surya University, Indonesia



2019 Technical University, Moldova



2020 Central American Integration System (SICA)



2022 Universidad Popular Autónoma del Estado de Puebla, México

China Space Station



2019 9 proposals were selected initially. 7 projects from 17 institutions from 13 different countries are under development: China, Germany, India, Italy, Japan, Kenya, Mexico, Peru, Poland, Russia, Saudi Arabia, Spain, Switzerland

Vega C



2023 University of Nairobi, Kenya, supported by the University of Arizona and Space Trust

ISONscope



2022 Kenya Space Agency



2022 National Space Research and Development Agency, Nigeria



Access to Space for All Impact of the initiative

• Progress in our scientific knowlegde

SPIE Optics and Photonics Education Scholarship

UNITED NATIONS



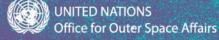
Exposure and Engagement





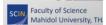
Launch and Deployment Event from mainstream media > 1.000.000 views

> 2300 comments





- Students stepping out of comfort zone
 - Expand space biology research opportunity and awareness
- Collaboration with top organizations
- Government research grant opportunity
- Preparation for space economy through space ecosystem development in Thailand



3. How has participating in DropTES changed the environment around you?

HyperGES and community impacts in Thailand

New enrollment in Mechanical Engineering at UVG grew 176% in 2020

Now these new students ask when are they going to send to space Quetzal-2?





MECHATRONICS DE

Aerospace, AI and Digital Centre

ESPITA was able to grow , to expand by inauguration AEROSPACE, AI AND DIGITAL CENTER on July 2022





Guatemalan team launches nation's 1st CubeSat, wins **Interplanetary Initiative** prize

International student team recognized for its success through adversity

⊌ f in

When members of the team that built the Quetzal-1 CubeSat watched their satellite take off on a SpaceX Falcon 9 rocket in 2020, it was the culmination of six years of hard work, overcoming financial and personnel hurdles

and challenging cultural barriers.

The Aerospace Laboratory at UVG

- · New generation of students continue working on developing technologies for CubeSats in the aerospace laboratory at UVG
- · The laboratory receives continuous visits from schools
- · Other space missions:
- · DSRG: pieces manufactured for this experiment launched in Artemis I
- Space Biofilms

















































- Opportunities to deploy up to two 1U-3U CubeSats for the selected entities flying with the EXOpod deployment system provided by Exolaunch.
- Exolaunch shall provide free-of-charge EXOpod CubeSat deployer and launch services for each of the selected CubeSats, as well as related technical support and coordination activities.
- Exolaunch is a premier global launch, deployment, mission management, integration, and in-space logistics provider for small satellites (HQ in Germany and with offices in France and the United States of America)
- Agreement signed in January 2024 and Announcement of Opportunity is 26
 June 2024
- Application Deadline: 31 December 2024







In collaboration with



ACCESS TO SPACE FOR ALL NEW ANNOUNCEMENT

Exolaunch EXOpod First-Round Opportunity

Free of charge launch opportunities to space for CubeSats

Announced on: 26 Jun 2024 Application by: 31 Dec 2024







Please scan the above QR Code and visit the UNOOSA Access to Space for All webpage for details: https://www.unoosa.org/oosa/en/ourwork/access2space4all/EXOpod/exopod-index.html







In collaboration with



ACCESS TO SPACE FOR ALL

EXOpod1st Round

Website of Access to Space for All, and Webpage of EXOpod

 Introduction to the Announcement of Opportunity and Application Form

Announcement of Opportunity

Wednesday 31 July 2024 16:00 CEST





Cupesats

Announced on: 26 Jun 2024 Application by: 31 Dec 2024



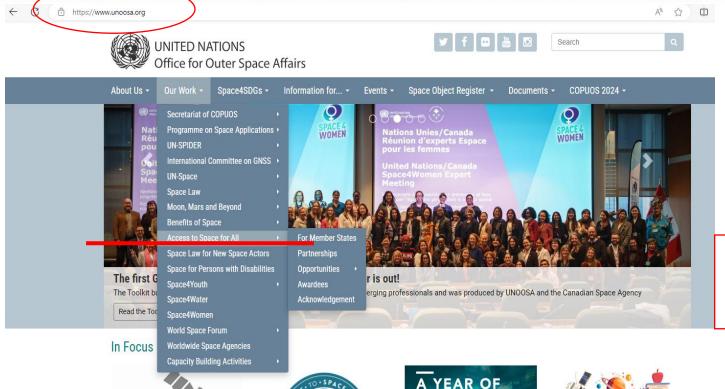




Please scan the above QR Code and visit the UNOOSA Access to Space for All webpage for details: https://www.unoosa.org/oosa/en/ourwork/access2space4all/EXOpod/exopod-index.html

Access to Space for All Website and Resources







SPACE4SDGS

ACCESS TO SPACE FOR ALL

UNOOSA ANNUAL REPORT 2023

TRANSITION

ONLINE COURSES

UNITED NATIONS Office for Outer Space Affairs







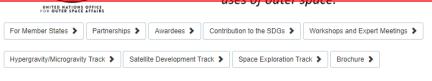
About Us - Our Work -Our Work > Access to Space for All



ACCESS TO SPACE FOR ALL

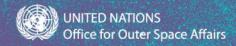
Space4SDGs - Information for... - Events - Space Object Register -

A joint initiative to offer access to space research facilities, infrastructure and information, and to promote international cooperation in the peaceful uses of outer space.



Access to Space for All Latest Information

ANNOUNCEMENT The Orion 1 team from the Yogyakarta State University (Indonesia) selected as the 5th round of Kibo-RPC,						
read more > (8 July 2024)						
OPPORTUNITY UNOOSA AND Exolaunch jointly announced the first-round opportunity for the EXOpod project, read more > (26						
June 2024). How to Apply? Please refer to the EXOpod Rounds webpage .						
ANNOUNCEMENT University of San Carlos and Holy Name University selected as the 3rd round awardee of HyperGES , read more						
(31 January 2024)						
ANNOUNCEMENT Universidad Central de Venezuela selected as the 9th round awardee of DropTES , read more > (31 January 2024)						
ANNOUNCEMENT UNOOSA and Exolaunch sign agreement to launch CubeSats into space, read more ➤ (31 January 2024)						







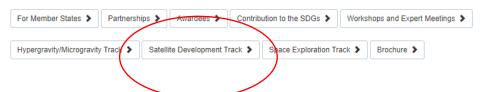
Our Work -Space4SDGs -Information for... • Events -Space Object Register -

Our Work > Access to Space for All



ACCESS TO SPACE FOR ALL

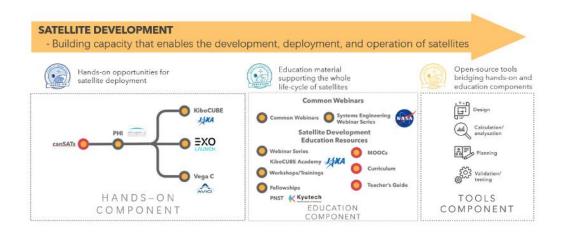
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Satellite Development Track



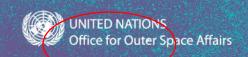
The Satellite Development Track is aiming at building the capacity to design, implement, verify, operate and decommission a satellite in a responsible and sustainable manner.

Hands-on Component



Education Component





AN D



Our Work -











Information for... • Space Object Register -

Our Work > Access to Space for All > Opportunities > Satellite Development Track

Space4SDGs -



News

- Webinar for the 1st round Opportunity: 31 July 2024 16:00 Central European Time. Please register your participation of the Webinar at the link: https://forms.office.com/e/TyvDug5bVz.
- . Press Release: UNOOSA and Exolaunch announced the first-round opportunity for EXOpod project, read the Press Release (26 June 2024)! How to Apply? Please refer to the EXOpod Rounds Webpage.
- UNOOSA and Exolaunch sign agreement to launch CubeSats into space, read the Press Release!

ROUNDS



AWARDEES



PARTNER



https://www.unoosa.org/oosa/en/ourwork/access2space4all/EXOpod/exopod-rounds.html





About Us - Our Work - Space4SDGs - Information for... - Events - Space Object Register - Documents - COPUOS 2024 -

Our Work > Access to Space for All > Opportunities > Satellite Development Track

EXOpod Rounds

1ST Round Application: From 26 June 2024 to 31 December 2024

PRESS RELEASE: UNOOSA and Exolaunch announced the first-round opportunity for EXOpod project, read the Press Release (26 June 2024)

The Webinar for the 1st round announcement is now scheduled on 31 July 2024, and please register your participation of the Webinar at the link: https://forms.office.com/e/TyvDug5bVz.



Our Work

Secretariat of COPUOS

Applications

UN-SPIDER

UN-Space

Space Law

Moon, Mars and Beyond

Benefits of Space

Satellite Development Track

Space Law for New Space Actors

Disabilities

Space4Water







1ST ROUND SCHEDULE

- . Announcement Date of the Opportunity: 26 June 2024. Please download the announcement document below.
- Webinar for the 1st round Opportunity: 31 July 2024 16:00 Central European Time. Please register your participation in the Webinar at the link: https://forms.office.com/e/TyvDug5bVz.
- Submission of the Expression of Interest before 30 September 2024. (This is not mandatory, but is highly recommended).
- Deadline for submitting your application and proposal: 31 December 2024 23:59 Central European Time

ANNOUNCEMENT DOCUMENTS:

The opportunity was announced on 26 June 2024, and please download the announcement document at the below link:

- · Announcement of Opportunity (.pdf), uploaded on 26 June 2024
- Application Form Template (.docx), uploaded on 26 June 2024

REFERENCE MATERIALS:

- · The EXOpod Nova User Manual
- The SpaceX Rideshare Payload User's Guide
- · United Nations Register of Objects Launched into Outer Space
- Space Debris Mitigation Guidelines
- · Guidelines for the Long-Term Sustainability of Outer Space Activities

REMARKS:

- The CubeSat must be compatible with the Exolaunch EXOpod deployer. The User Manual can be downloaded at https://exolaunch.com/exopod
- The CubeSat must be tested to and comply with requirements in the SpaceX Rideshare Payload User's Guide for containerized CubeSats. The Payload User's Guide can be downloaded at https://www.spacex.com/rideshare/
- More information about Exolaunch can be found at https://exolaunch.com/



READ all documents carefully



ASK questions today or send them to us by email

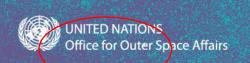


WATCH the related webinars under the Satellite Development Track



SUBMIT the documents on time **DEADLINE: 31 December 2024**

- All the announcement documents and instructions can be found and downloaded at the EXOpod webpage.
- This webpage shall be updated from time to time, so please visit this page periodically.





United Nations/Exolaunch Cooperation Programme on CubeSat Launch and Deployment using Exolaunch EXOpod First Round

Announcement of Opportunity

26 June 2024

- 1. Thematic Area: Access to Space for All Satellite Development Track
- Title: United Nations/Exolaunch Cooperation Programme on CubeSat Launch and Deployment using the Exolaunch EXOpod
- 3. Subject: Realization of a CubeSat deployment opportunity using the Exolaunch EXOpod.
- Implementation: United Nations Office for Outer Space Affairs (UNOOSA) and Exolaunch GmbH (Exolaunch).
- 5. Duration: May 2024 December 2027
- Deadline for Applications: Applicants must submit fully completed application forms to UNOOSA by 31 December 2024 23:59 Central European Time (CET, UTC+1).
- Expected Profile of Applicants: Government organisations, research institutions, universities, and other
 public and non-for-profit organisations with priority given to developing countries and emerging space
 nations.
- 8. Number of Opportunities for Deploying CubeSat: UNOOSA and Exolaunch will select a maximum of two (2) entities for a launch opportunity using the EXOpod cubesat deployer. Each Selected Entity will develop one (1) 1U-3U CubeSat to be deployed by Exolaunch in Low Earth Orbit (LEO).
- 9. Language of the Programme: English

11. Scope of Opportunity for Deploying the CubeSats

Through this Announcement of Opportunity, UNOOSA and Exolaunch undertake to make available, free of charge, the launch of a maximum of two (2) 1U-3U CubesSats in one competition round to entities selected by the UN as part of the Access to Space for All Initiative of UNOOSA. Exolaunch shall provide free of charge one slot in the EXOpod CubeSat deployer and launch services for each of the selected CubeSats, as well as related technical support and coordination activities for the Selected Entities. The Selected Entity shall bear the costs of the activities identified under the Section 16 of this Announcement of Opportunity. This cooperation programme is subject to the availability of funds and resources of UNOOSA and Exolaunch.

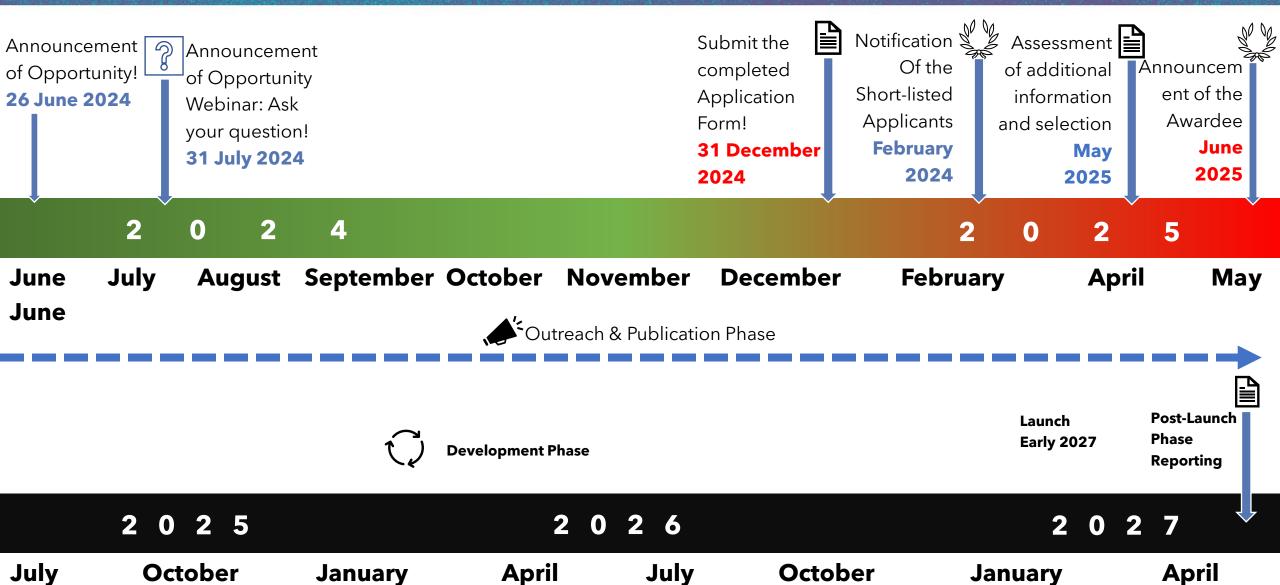
12. Program Schedule and Milestone

(A) Programme Schedule

Application Submission	31 December 2024
Selection and notification	28 February 2025
of shortlisted applicants	
Updated application	31 May 2025
submission	
Selection and notification of winner(s)	30 June 2025
Preparation period,	Approximately 15-18 months (subject to the progress of the CubeSat
including technical coordination	development)
Safety Review and	To be determined and arranged by Exolaunch, according to the
Compatibility Review	progress of the CubeSat development.
Deployment	Expected in 2026-2027, subject to the launch opportunity and progress of the CubeSat development.
Reporting to UNOOSA and Exolaunch	 A report on the operational results no later than 3 months after the deployment of the CubeSat. A report on the CubeSat mission, related activities, and any publications about the CubeSat mission every 6 months. A Final report on the results of the mission no later than 3 months after completion of the CubeSat mission.

Access to Space for All Announcement of Opportunity







Access to Space for All Announcement of Opportunity



14. Eligibility Criteria

This Opportunity is open to entities located in developing economies and economies in transition that are Member States of the United Nations

- Government organisations, research institutes, universities, and other public and non-for-profit organisations are eligible to apply for this Opportunity. Private companies are ineligible.
- Entities located in countries that do not have satellites in orbit at the time of the opening of this application (according to the information on the United Nations Register of Objects Launched into Outer Space) are particularly encouraged to apply.

To assess eligibility, UNOOSA and Exolaunch will use the country classification list of developing economies and economies in transition indicated in the joint report, World Economic and Stuation Prospects published by the United Nations Department of Economic and Social Affairs and other related organisations: https://desapublications.un.org/file/1098/download

Entities applying for this Opportunity are responsible for the development of their CubeSat, including the designing, manufacturing, testing, and verification of their CubeSat, as well as its operation and utilization after the deployment. Therefore, to be eligible for this Opportunity, applying entities must demonstrate in their application that they have sufficient capability and resources in the following areas:

- CubeSat design, manufacture, testing, and operation
- Transportation of the CubeSat to Exolaunch (planning, budget, export/import control etc.)
- Coordination of all radio frequency-related matters in full compliance with the applicable International Telecommunication Union radio regulations
- Ability to obtain a license of radio ground stations for operating the CubeSat in the applying country
- Development of the ground station facility with a radio frequency license
- Registration of the CubeSat in the Register of Objects Launched into Outer Space

Feams are allowed and encouraged to partner with external entities that can support their development, even if those entities are not eligible themselves. These partnerships should be clearly written as "External Support" in the Application Form and external partners shall not be included in the team.



Entities located in developing economies and economies in transition



Entities = Government organisations, research institutes, universities, other public and non-profit organisations. Private sectors are not eligible



Team = as members as deemed necessary



Partnerships = Include in team if the partner is also an eligible entity, if not put them under "External Support"



15. Selection Criteria

UNOOSA and Exolaunch will nominate members of the Selection Board, which will review the incoming applications according to the following criteria:

- Completeness of application form.
- Scientific and technical value of the CubeSat mission, as determined by either:
 - (a) The CubeSat mission's expected contribution to developing human knowledge and capacity to undertake activities in the field of space science and technology in the applying entity's home country or abroad; or
 - (b) The CubeSat mission's expected contribution to enhancing research and development through the technological demonstration of deploying and operating the CubeSat in the applying entity's home country or abroad.
- Novelty of the mission (the CubeSat mission shall not copy any previous development design of the applying entities, if any).
- Demonstrating that the applying entity itself and the intended design and function of the CubeSat are consistent with peaceful exploration and use of outer space, and are not intended solely for commercial, political, or religious purposes.
- Link between the CubeSat mission and the Sustainable Development Goals.
- Capability of the team to comply with the technical requirements outlined by UNOOSA and Exolaunch.
- Compliance with the Programme Schedule, including the deployment schedule.
- Outreach, communication, and dissemination plan about the CubeSat mission.
- The team composition of proposals with the same score will be compared and the proposal with a larger number of women will be ranked higher.
- Compliance with the <u>Space Debris Mitigation Guidelines</u> and <u>Guidelines for the Long-term Sustainability of Outer Space</u>
 Activities.



16. Roles and Responsibilities

The Selected Entity shall conduct the following activities:

- Submit and update the overall schedule/timeline for the CubeSat development and its mission.
- Attend the technical coordination meetings.
- Submit the satellite interface verification record (same document that will be submitted for the safety assessment to verify compliance with Exolaunch technical requirements).
- Design, analyze, manufacture, and test the CubeSat and its supporting systems, including verification of the compatibility with the technical requirements, except for the compliance tests that will be conducted by Exolaunch.
- Conduct all radio frequency-related matters in full compliance with the applicable International Telecommunication Union radio regulations.
- Verify the safety assessment, as well as the compliance of the CubeSat design with Exolaunch's technical requirements for the safety assessment, and prepare the materials and operations required for the safety review.
- Deliver the CubeSat to the location specified by Exolaunch.
- Operate the CubeSat after deployment, including tracking control and data acquisition.
- Register the CubeSat either in accordance with the Convention on Registration of Objects Launched into Outer Space or, if the country of the Selected Entity is not a party to the Convention, in accordance with General Assembly resolution 1721B (XVI).
- Conduct outreach activities to promote capacity-building and STEM education related to the CubeSat project.
- Contribute to the public relations and promotion activities of UNOOSA including responding to press inquiries about the CubeSat and preparing information materials upon request from UNOOSA.
- Ensure compliance with the <u>Space Debris Mitigation Guidelines</u> and <u>Guidelines for the Long-term Sustainability of Outer Space Activities</u>.
- Inform UNOOSA and Exolaunch of any publication that uses the outcome of this CubeSat mission, including PhDs, Master theses, publications in journals, and conference or workshop proceedings and presentations. The Selected Entity is requested to include the following sentence in their peer-reviewed publications, contributions to congresses, and other forms of written dissemination:

"The authors would like to thank the United Nations Office for Outer Space Affairs and Exolaunch for the Access to Space for All Initiative: Programme on CubeSat deployment from Exolaunch: UNOOSA and Exolaunch for their support in enabling the deployment of the CubeSat."

Please note that the Selected Entity shall bear any costs associated with the activities above, including employment costs, travel expenses, and transportation fees.



Access to Space for All Application Form



United Nations/Exolaunch

EXOpod Application Form

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United Nations/Exolaunch

EXOpod Application Form

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KiboCUBE Academy is an online educational series that aims to provide theoretical knowledge to develop, operate and utilize small satellites.

https://www.unoosa.org/oosa/en/ourwork/access2space4all/ KiboCUBE_Academy_Webinars.html

And, System Engineering Webinars provided by NASA: https://www.unoosa.org/oosa/en/ourwork/access2space4all/ NASA.html





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- PHI Webinars >
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Any questions?

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