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## OPPORTUNITIES FOR CUBESAT DEPLOYMENT UNDER THE UNITED NATIONS ACCESS TO SPACE 4 ALL INITIATIVE: ACHIEVEMENTS IN 2021-2022

## Abstract

The United Nations Office for Outer Space Affairs (UNOOSA) promotes international cooperation in the peaceful uses and exploration of space and in the utilization of space science and technology for sustainable socioeconomic development. UNOOSA's Access to Space 4 All Initiative, developed to accelerate and modernize capacity-building efforts, provides tracks that offer gradual learning steps helping participants develop capabilities in a sustainable and responsible manner. There are currently three tracks each offering a variable number of hands-on opportunities under an overarching theme:

- Hypergravity/Microgravity Track: designed with the end goal of developing the capacity of running space experiments onboard orbital vehicles or space stations.
- Satellite Development Track: aiming at building the capacity to design, implement, verify, operate and decommission a satellite in a responsible and sustainable manner.
- Exploration Track: designed to cover aspects related to space exploration beyond the geostationary orbit.

Partnerships are a distinctive feature of the Access to Space for All. The Initiative is supported by governmental, intergovernmental and commercial stakeholders, who are providing access to state-of-theart facilities and infrastructure to support the development of technical and scientific capabilities in the different tracks. UNOOSA is working on establishing new partnerships to cover some of the gaps identified in the Initiative and expand its portfolio. UNOOSA is actively working on expanding its portfolio of activities and is searching for more partners to cover some of the identified gaps in the Initiative The Satellite Development track contains three orbital opportunities delivered in partnership with Avio S.p.A, Mohammed Bin Rashid Space Centre and the Japan Aerospace Exploration Agency (JAXA). KiboCUBE, a joint endeavor with JAXA, enables the deployment of a 1U CubeSat from the International Space Station. Thanks to the Initiative satellites of Kenya, Guatemala and Mauritius have been deployed in 2018, 2020 and 2021 respectively. In 2022, these will be followed by the first satellite of the republic of Moldova and a satellite from Surya University from Indonesia. This paper will provide an update of the activities and experiments carried out under the Satellite Development Track during 2021-2022 together with information on the new opportunities available and future prospects.