

ACCESS TO SPACE FOR ALL

Jorge Del Rio Vera
United Nations Office for Outer Space Affairs



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Office for Outer Space Affairs

UNOOSA

The UN Home for Space

UNOOSA, as the only UN entity dedicated to space affairs, works with a range of partnerships from across the space sector:

- ❑ **National Governments**
- ❑ National and Regional **Space Agencies**
- ❑ **Private entities**
- ❑ **Civil Society**, including academia and other NGOs
- ❑ Other **UN entities** in Vienna, New York, Geneva, and in the field



*“What we need right now to foster innovation is **diversity** and **integrated efforts** with partnerships, networking and cooperation at the core”*

- Simonetta Di Pippo -





Access to Space for All Initiative

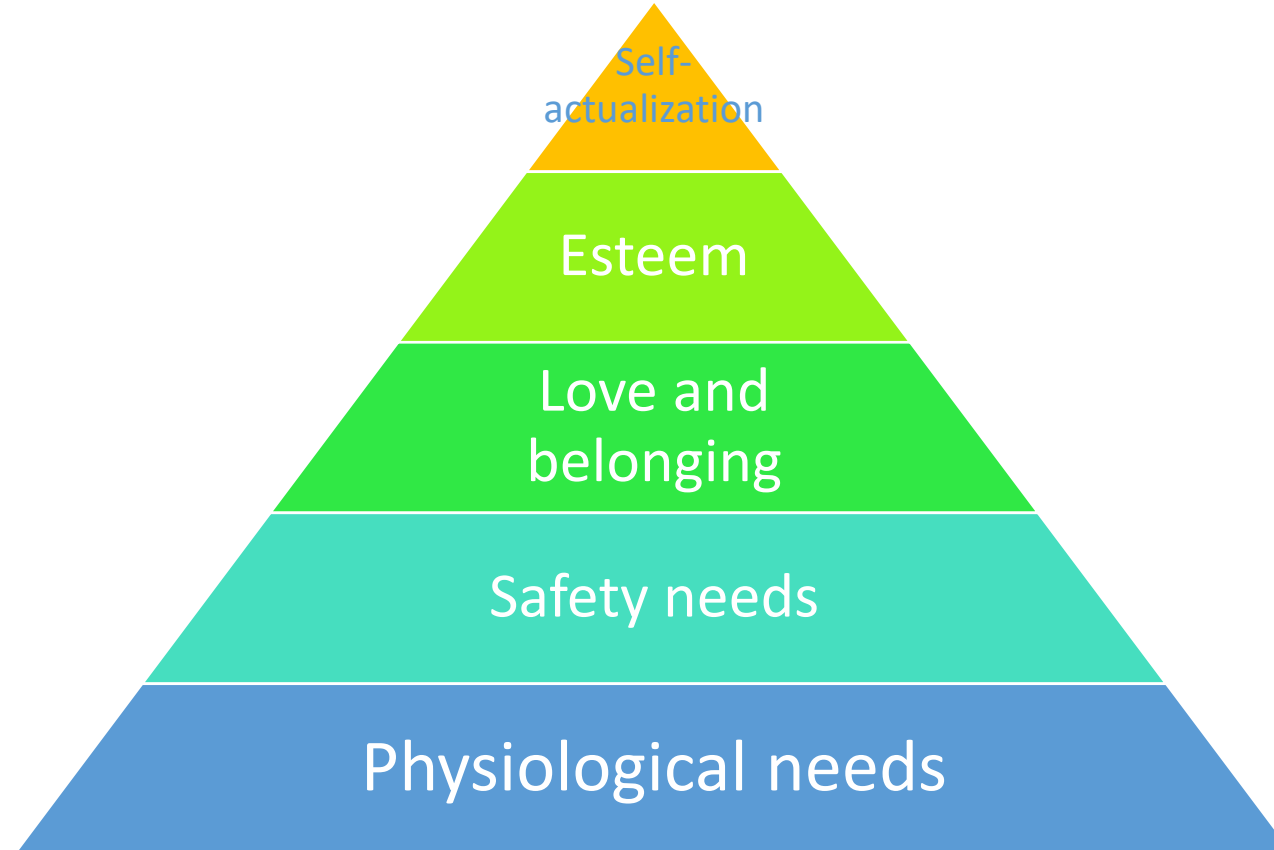


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Is outer space important?



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Maslow's hierarchy of needs



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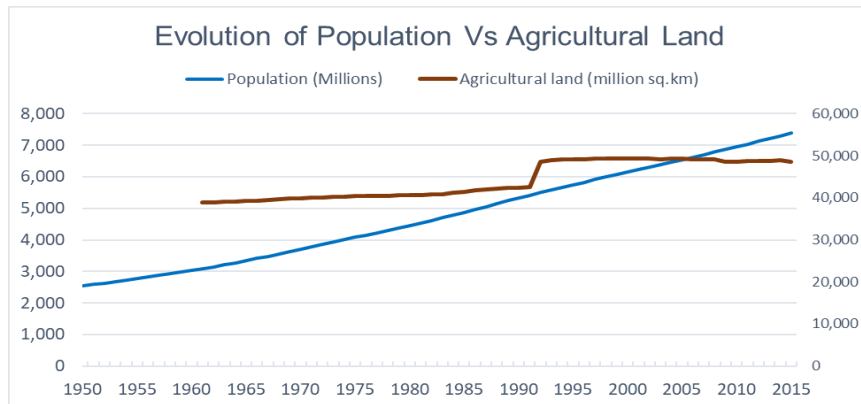




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Space and the SDGs

- Nearly 40 % of targets can benefit from space technologies, data, services and applications
- Modern societies are not possible without space technologies, data, services and applications



https://www.unoosa.org/res/oosadoc/data/documents/2018/stspace/stspace71_0_html/st_space_71E.pdf



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Is outer space important?



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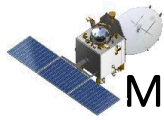
Is outer space expensive?



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Myth 1: Space is Expensive!!!

DEBUNKED!



Mangalyaan ☒

Vs The Martian



73 M\$ Vs 108 M\$



Price of a big commercial airplane Vs. ☐

Chandrayaan-2



~ 150 M\$ Vs 141 M\$

- Price of an amateur weather satellite receiving station ☐
Vs "Cinema for 2 in Tokyo" ☒

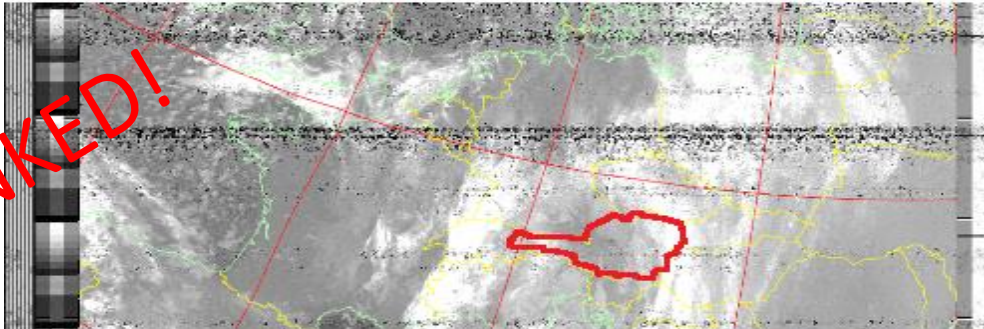
85\$ Vs 30\$



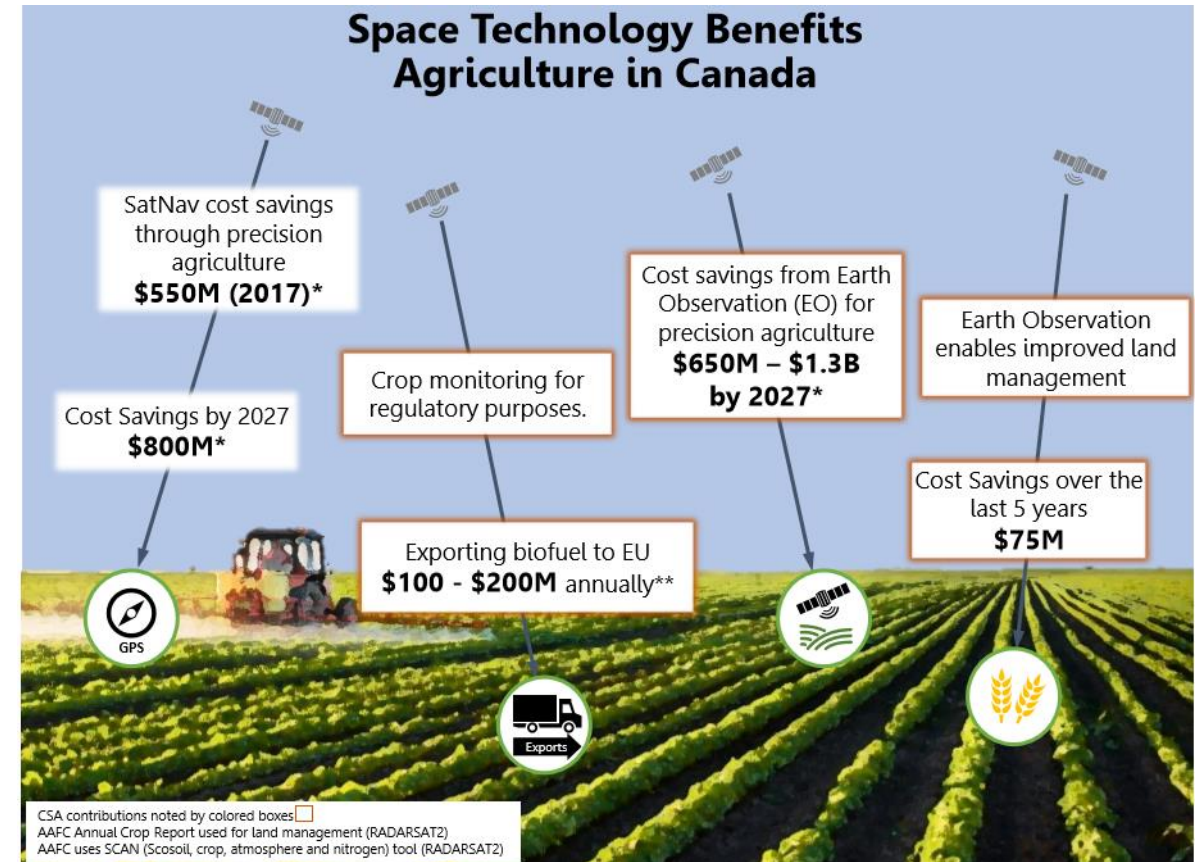
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Myth 1: Space is Expensive!!!

DEBUNKED!



Space Technology Benefits Agriculture in Canada



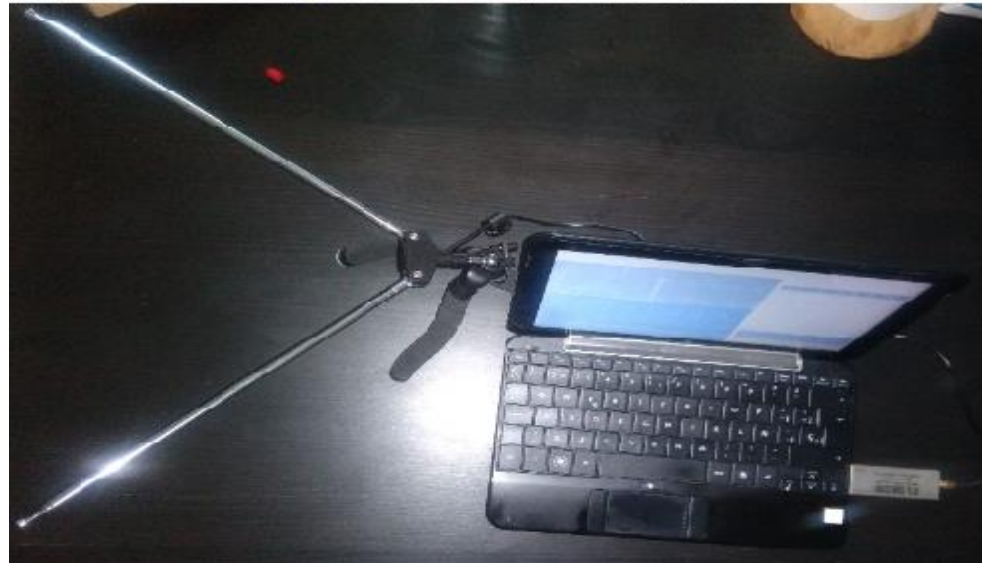
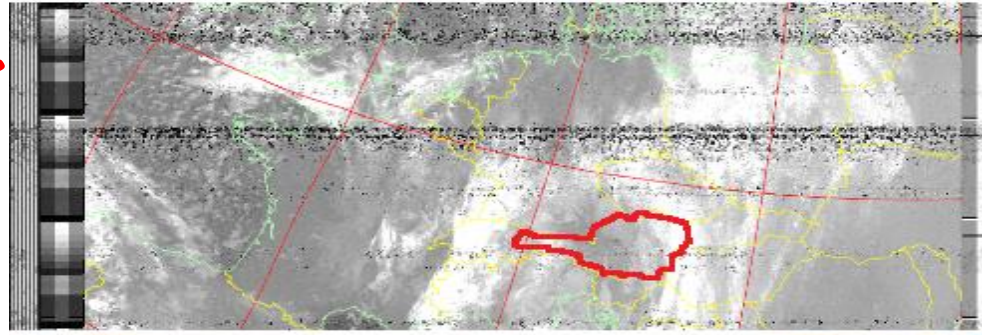
*Savings brought by bringing efficiencies to seed, fertilizer, water use, maximizing yield etc., **Canola crop exports



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*Myth 1:
Space is Expensive!!!*

DEBUNKED!





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Myth 2: Space is only for a few countries!!!

DEBUNKED!

- Members of United Nations COPUOS (95)

Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Belgium, Belarus, Benin, Bolivia, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chad, Chile, China, Colombia, Costa Rica, Cuba, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Finland, France, Germany, Ghana, Greece, Hungary, India, Indonesia, Iran, Iraq, Israel, Italy, Japan, Jordan, Kazakhstan, Kenya, Lebanon, Libya, Luxembourg, Malaysia, Mauritius, Mexico, Mongolia, Morocco, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Rwanda, Saudi Arabia, Senegal, Sierra Leone, Singapore, Slovakia, South Africa, Spain, Sri Lanka, Sudan, Sweden, Switzerland, Syrian Arab Republic, Thailand, Tunisia, Turkey, the United Arab Emirates, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Ukraine, Uruguay, Venezuela & Viet Nam



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What if a country would become spacefaring, for example launching satellites, without national space law and policy, without an economic analysis or lack of a technology roadmap or trained personnel?



Access to Space for All Initiative

*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*



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#AccSpace4All



Access to Space for All Initiative



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What if there was no Access to Space for All?

United Nations

A/AC.105/INF/433



General Assembly

Distr.: General
24 January 2019

Original: English

**Committee on the Peaceful
Uses of Outer Space**

**Information furnished in conformity with General Assembly
resolution 1721 B (XVI) by States launching objects into
orbit or beyond**

**Note verbale dated 23 January 2019 from the Permanent Mission
of Kenya to the United Nations (Vienna) addressed to the
Secretary-General**

The Permanent Mission of Kenya to the United Nations (Vienna) has the honour to transmit, in accordance with paragraph 1 of General Assembly resolution 1721 B (XVI) of 20 December 1961, information on the satellite “1KUNS-PF”, launched into outer space on 11 May 2018 (see annex).

United Nations

A/AC.105/INF/433/Add.1



General Assembly

Distr.: General
1 February 2021

Original: English

**Committee on the Peaceful
Uses of Outer Space**

**Information furnished in conformity with General Assembly
resolution 1721 B (XVI) by States launching objects into
orbit or beyond**

**Note verbale dated 20 January 2021 from the Permanent Mission
of Kenya to the United Nations (Vienna) addressed to the
Secretary-General**

The Permanent Mission of Kenya to the United Nations (Vienna) has the honour to transmit, in accordance with paragraph 1 of General Assembly resolution 1721 B (XVI) of 20 December 1961, additional information on the 1st Kenyan University NanoSatellite-Precursor Flight (1KUNS-PF) satellite, previously registered by Kenya (see [A/AC.105/INF/433](#)), which ceased to exist in June 2020.

The satellite, owned and operated by the University of Nairobi, re-entered the Earth's atmosphere and was no longer in Earth orbit as at 2300 hours Nairobi time on 12 June 2020.¹

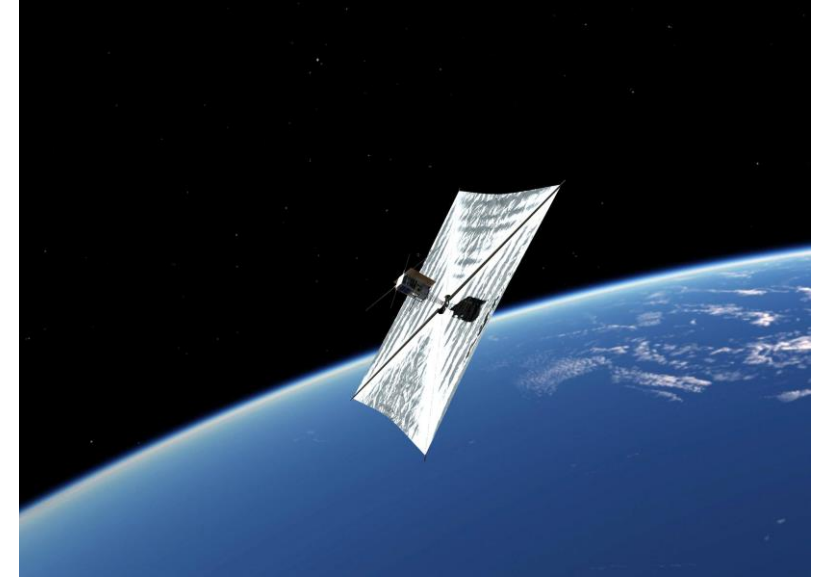
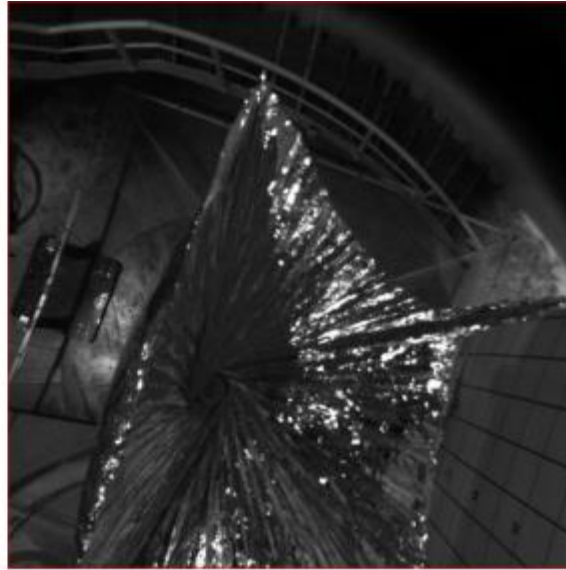
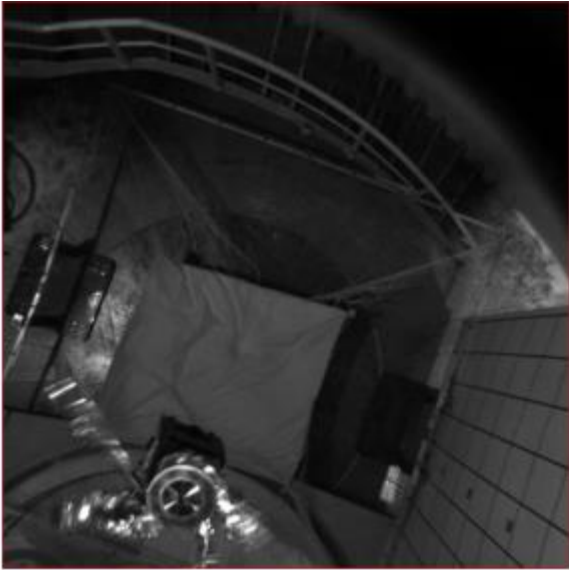
Responsible and Sustainable Behaviour



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What if there was no Access to Space for All?



Deorbit sail deployment tested through DropTES in ZARM's drop tower

Responsible and Sustainable Behaviour



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What if there was no Access to Space for All?

HyperGES "Watermeal, the Future Food Source for Space Exploration"



HyperGES and community impacts

- Expand space-related knowledge and awareness in Thailand
- Flagship program in astroculture, produce intensive research environment
- Team up with other organization. Stepping out of their comfort zone encouragement



FIRST MAURITIUS SATELLITE – OPENING NEW OPPORTUNITIES

JOURNEY TO SPACE ALTHOUGH NOT EASY BUT EXTREMELY REWARDING AND OFFERS HIGHLY PROMISING FUTURE

MAURITIUS EMBARKS IN NEW SPACE ERA

- Geolocation interesting for future space related activities
- More advanced space nations interested to collaborate

BOOST TECHNICAL CAPACITY

- Building highly technical capacity
- Sophisticated ground station for future missions set up
- Training of younger generation

A POTENTIALLY NEW SOCIO-ECONOMIC PILLAR

- Space offers numerous possibilities for Mauritius. Data analytics, opportunities for R&D, business opportunities, intergovernmental collaborations.

ENTHUSIASTIC YOUNGSTERS

- The training program on antenna building gave us an insight of the high level of enthusiasm for this new field. There is hope to enhance this interest further to build new capacity.

GOVERNMENT FULLY SUPPORTIVE

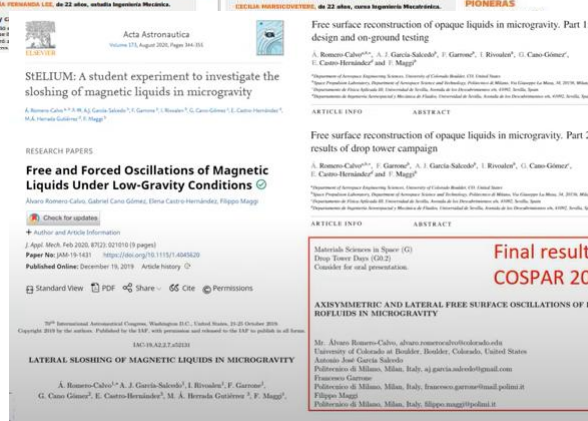
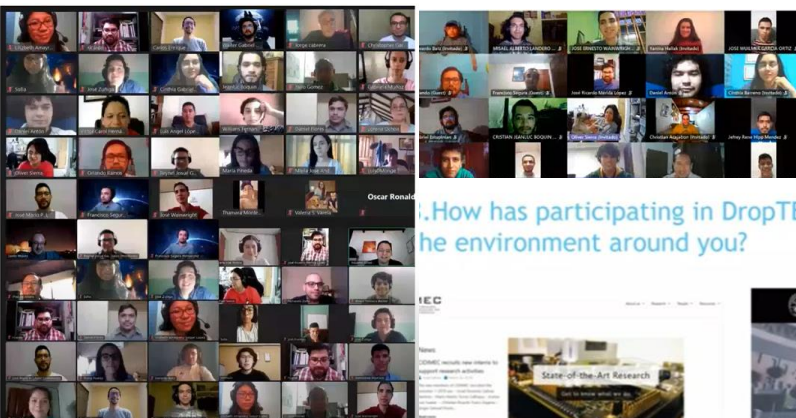
- This historical initiative for the Republic of Mauritius promises to unlock new opportunities for research, innovation and socio-economic development.

3. How has participating in DropTES changed the environment around you? Cont'd (3)

In Feb. 2017 I was elected to be the President of the American University of Madaba (AUM) in Jordan. That month AUM started the Innovation project for its students and for high school students in Jordan at large.



How has participating in DropTES changed the environment around you?



Final results!!
COSPAR 2021



Access to Space for All Initiative



Access to Space and SDGs



Among others targets:

"By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship"

There is no technological innovation without education and infrastructure

Infrastructure and education contributes to the economy

9

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

4 QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

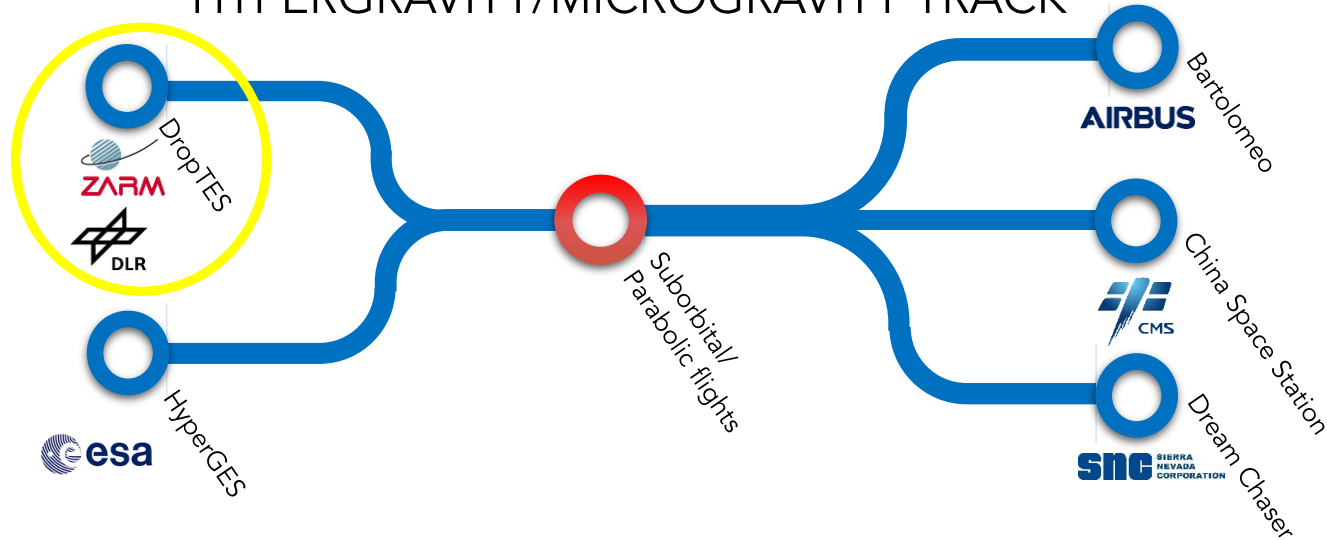




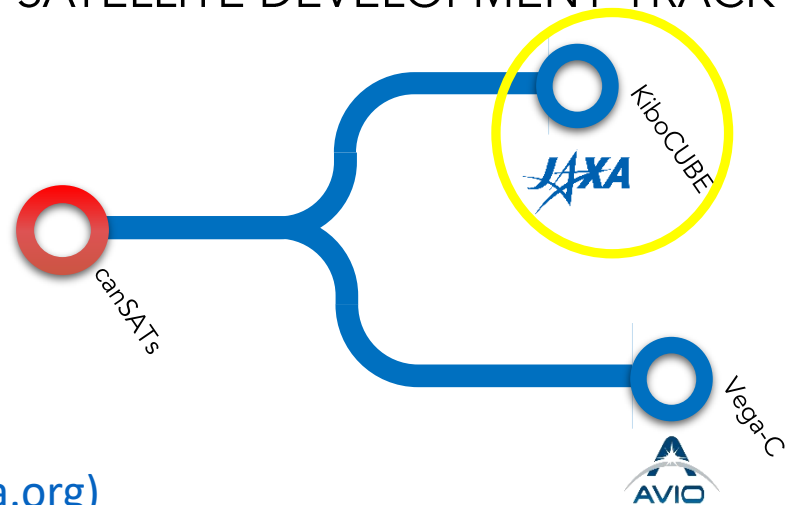
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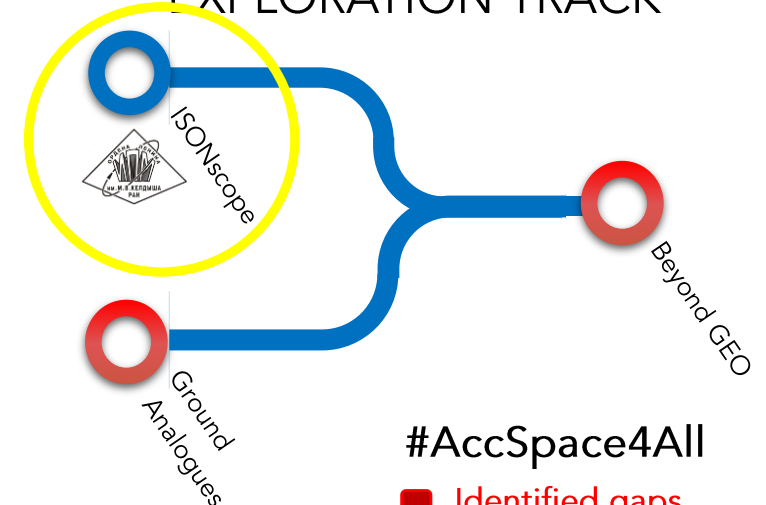
HYPERGRAVITY/MICROGRAVITY TRACK



SATELLITE DEVELOPMENT TRACK



EXPLORATION TRACK



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■ Identified gaps

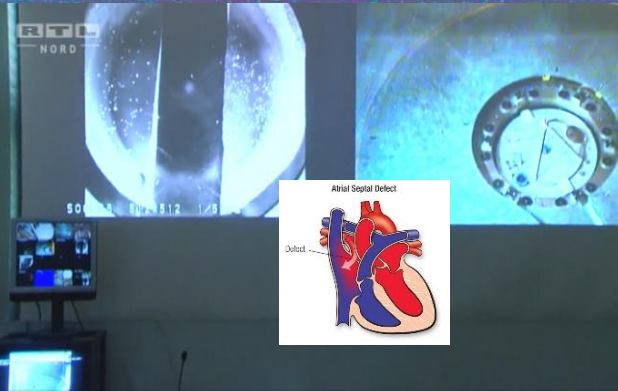


Sustainable Development Goals (SDGs)



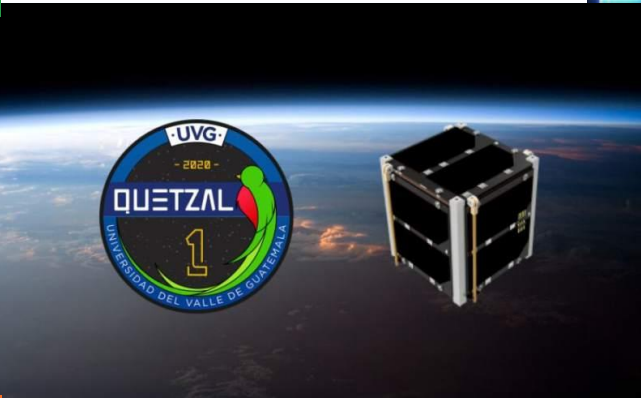
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3 GOOD HEALTH
AND WELL-BEING

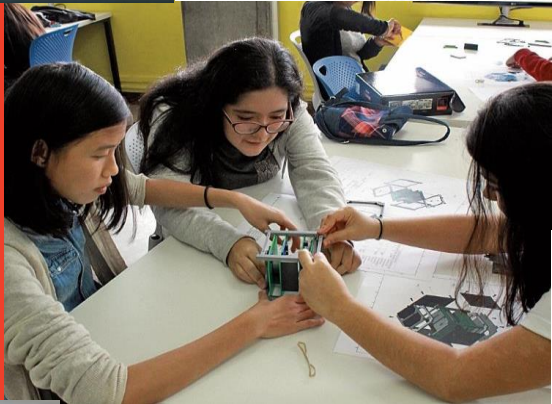


*All photos from Past-winners of the Initiative

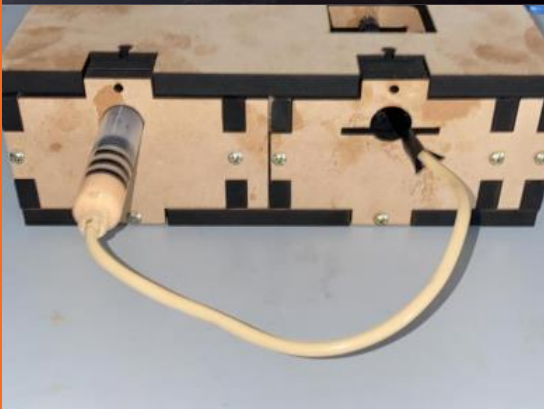
6 CLEAN WATER
AND SANITATION



5 GENDER
EQUALITY



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



SPACE4SDGS



SDG Number	SDG Name	Number of Companies
1	No Poverty	1
2	Zero Hunger	4
3	Good Health and Well-being	5
4	Quality Education	5
5	Gender Equality	2
6	Clean Water and Sanitation	3
7	Affordable and Clean Energy	2
8	Decent Work and Economic Growth	3
9	Industry, Innovation and Infrastructure	6
10	Reduced Inequalities	2
11	Sustainable Cities and Communities	3
12	Responsible Consumption and Production	2
13	Climate Action	4
14	Life Below Water	2
15	Life on Land	2
16	Peace, Justice and Strong Institutions	2
17	Partnerships for the Goals	6

-
- A world map with a grid overlay, showing the distribution of the study population. Countries with a significant number of participants are highlighted in dark blue. These include the United States, Canada, Mexico, Brazil, Argentina, Chile, Peru, Colombia, Venezuela, Ecuador, and the United Kingdom. Other countries with smaller populations are highlighted in light blue, including France, Germany, Italy, Spain, Portugal, Greece, Turkey, India, China, Japan, South Korea, Taiwan, Hong Kong, Singapore, Malaysia, Indonesia, Philippines, Thailand, Vietnam, Laos, Cambodia, Myanmar, Bangladesh, Pakistan, Afghanistan, Iran, Iraq, Saudi Arabia, Kuwait, Oman, United Arab Emirates, Qatar, Bahrain, Brunei, and Australia.

- 17 countries (eligible)



Access to Space for All Initiative



Partnerships

- Partnership is a distinctive feature of the Initiative. The Access to Space for All Initiative is only possible thanks to partnerships with various public and private actors, who are contributing to the initiative in various manners. **New** contributions to the Initiative are possible and encouraged.
- Participants are important to us, partnership either.

4 QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all





Access to Space for All Initiative



Reach of Access to Space for All

8 OCTOBER 2020

Daily Press Briefing by the Office of the Spokesperson for the Secretary-General

****Space Week**

And as you know, this is Space Week. So I want to flag that, tomorrow, the United Nations Office for Outer Space Affairs, based in Vienna, is organizing a webinar on KiboCUBE programme to mark the Space Week.

The KiboCUBE programme is a collaboration with the Japanese Aerospace Exploration Agency and gives developing countries the opportunity to deploy a satellite from the Japanese module of the International Space Station free of cost. Kenya and Guatemala have already deployed their first satellites into orbit through KiboCUBE, building their space technology skills and gaining access to data and imagery. In the webinar, past and current winners of KiboCUBE will discuss how the programme has helped them with access to space exploration. Other winners, such as Mauritius, Indonesia and Moldova, are set to deploy their satellites through KiboCUBE in the coming months and years.

“The Organization advanced a broad range of technology initiatives related to sustainable development. This included [...] the Access to Space for All initiative.”

UN Secretary-General

Report of the

<https://www.un.org/annualreport/2019/files/2019/09/Annual-report-SG-2019-EN-Complete-Web.pdf>

Reach AccSpace4All last 2 months

- Facebook: ~ 25,000
- Twitter: ~ 464,000





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The future...





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Help us help

#AccSpace4All

Bringing the benefits of space to everyone, everywhere

Thank you



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