

Vision 2030-All: How can we contribute to sustainable development Through capacity building programs in the field of space science and technology?

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UNISEC-Global

Vienna, Austria, February 1, 2018.

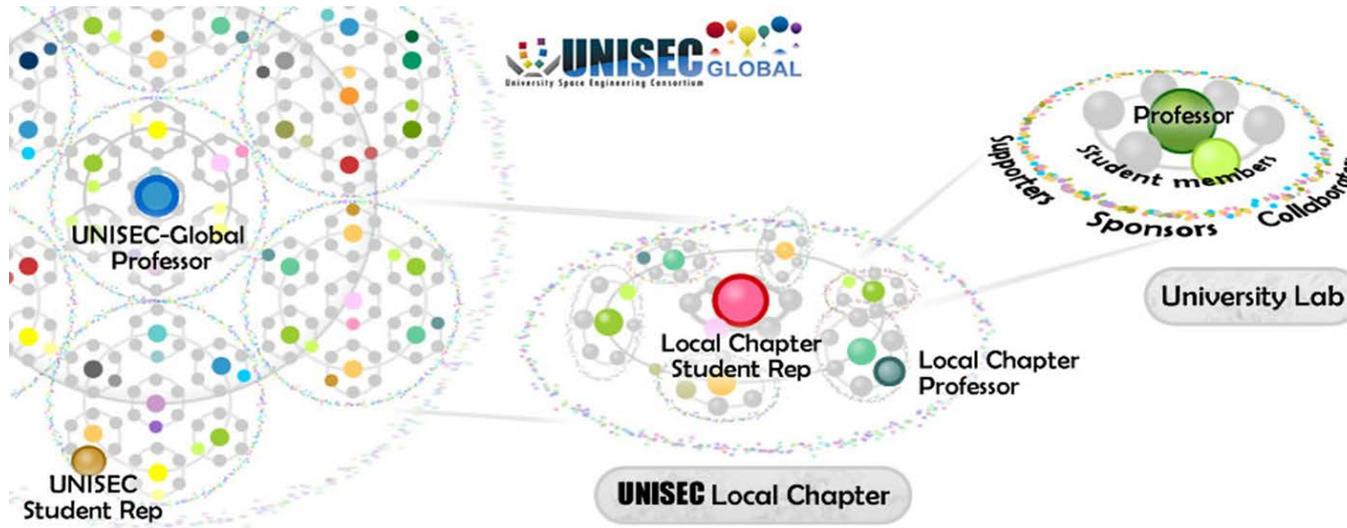
Fifty-Fifth session of the Scientific and Technical Subcommittee of
the Committee on the Peaceful Uses of Outer Space (STSC2018)

Outline

- Introduction to UNISEC-Global
 - What is UNISEC-Global?
 - Vision
 - Activities
- The 2030 Agenda
 - Space 2030 Agenda
 - Vision 2030-All
- UNISEC-Global Approaches
- Conclusions

What is UNISEC-Global?

- **UNISEC-Global** is an **international nonprofit, non-government organization**, consisting of local-chapters across the world.
- Since its **establishment in November 2013**, it has provided an annual forum, training programs, competitions.
- In 2017, it was accepted as **permanent observer by UNCOPUOS**.
- Its **primary objective** is to help create a world where space science and technology is used by individuals and institutions in every country, rich or poor for peaceful purposes and for the benefit of humankind.



UNISEC stands for
University Space
Engineering
Consortium

UNISEC Points of Contact (POCs) Local Chapters (LCs)

POC in 46 regions: Algeria, Argentina, Australia, Bangladesh, Belarus, Bolivia, Brazil, Bulgaria, Canada, Chile, Costa Rica, Egypt, El Salvador, Germany, Ghana, Guatemala, Indonesia, Italy, Japan, Kenya, Lithuania, Malaysia, Mexico, Mongolia, Morocco, Nepal, New Zealand, Nigeria, Peru, the Philippines, Saudi Arabia, Singapore, Samara, Slovenia, South Korea, Spain, South Africa/Angola/Namibia, Tainan, Thailand, Tunisia, Turkey, Ukraine, USA and Vietnam



15 Local Chapters
and 1 Association of
Local Chapters have
been acknowledged.

(Local Chapters are written in Red)

Vision 2020-100

“By the end of 2020, let’s create a world where university students can participate in practical space projects in more than 100 countries.”



Training methods can be transferred to existing universities anywhere.

Activities of UNISEC-Global

How can we facilitate activities worldwide?

- **Training Program**

- CanSat Leader Training Program (CLTP)



- **Competition**

- Micro/Nano Satellite Mission Idea Contest (MIC)
- Debris Mitigation Competition (DMC)



- **Conferences, workshops, and meetings**

- UNISEC-Global Meeting
- Nano-satellite Symposium



CanSat Leader Training Program (CLTP)



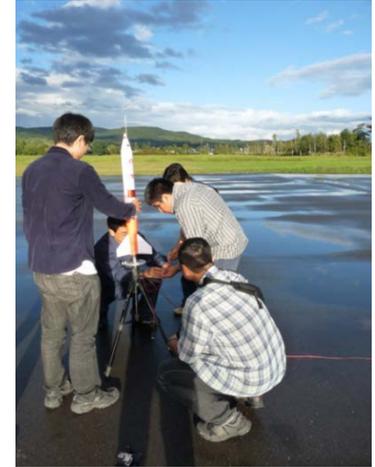
Objective: CLTP is a training program for professors/instructors to learn how to conduct CanSat training by experience. Participants are expected to teach their students after training. It has contributed to capacity building in basic space engineering and technology.

Launched: October 2010

Offered: Annually

Graduated: 73 participants from 34 countries

CLTP9 Application Deadline: March 30, 2018



Launch Experiment



CanSat Manufacturing

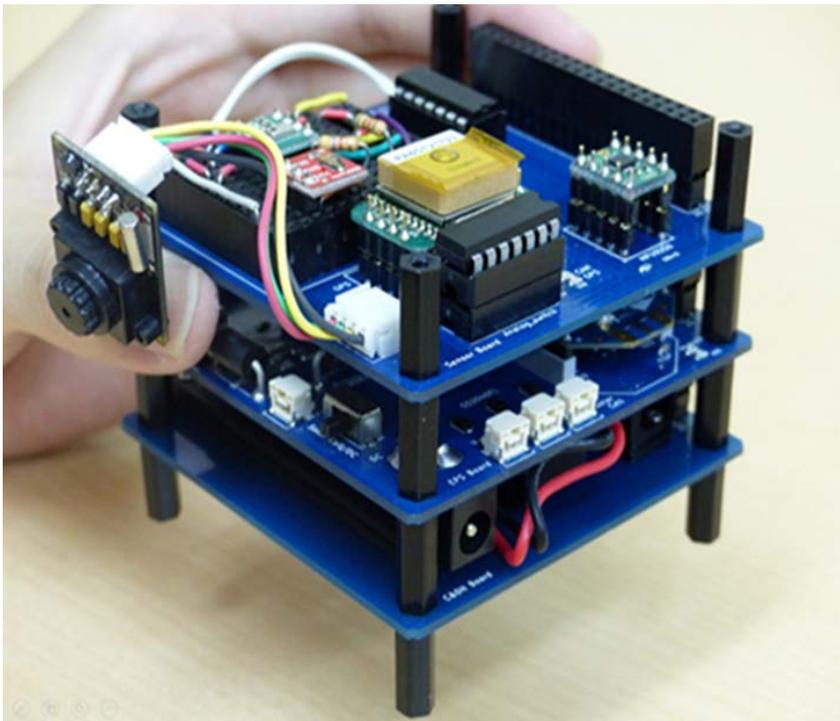


Testing



Paper Craft Rocket

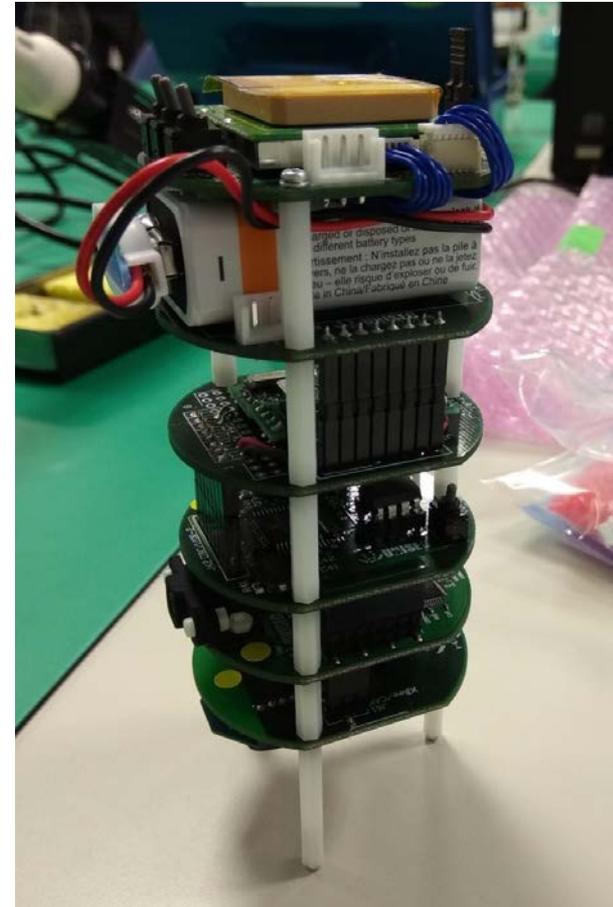
Training Programs: Educational Kits



HEPTA-Sat

(CLTP8-, HEPTA-Sat Training Workshops)

Developed by: UNISEC-Japan



i-CanSat

(CLTP3-7, CTP)

HEPTA-Sat Training

- History:
 - Ghana, Feb. 2015.
 - Angola, Oct. 2015.
 - Japan, Sep. 2017.
 - Bulgaria, Oct. 2017.
 - Nepal, Nov. 2017.
 - South Africa, UN Workshop, Dec. 2017.



Ghana



Angola



Japan



Bulgaria



Nepal



South Africa

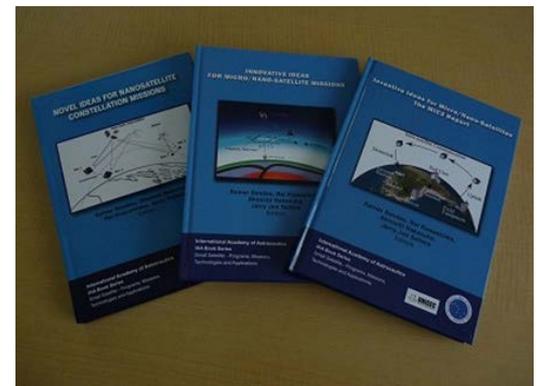
Mission Idea Contest (MIC) for Micro/Nano Satellite Utilization

Objective: The Mission Idea Contest (MIC) is encouraging aerospace engineers, college students, consultants, and anybody interested in space to share their ideas on how to use micro/nano/pico satellites, and provides opportunities to present their ideas and gain attention internationally.

Launched: June 2010

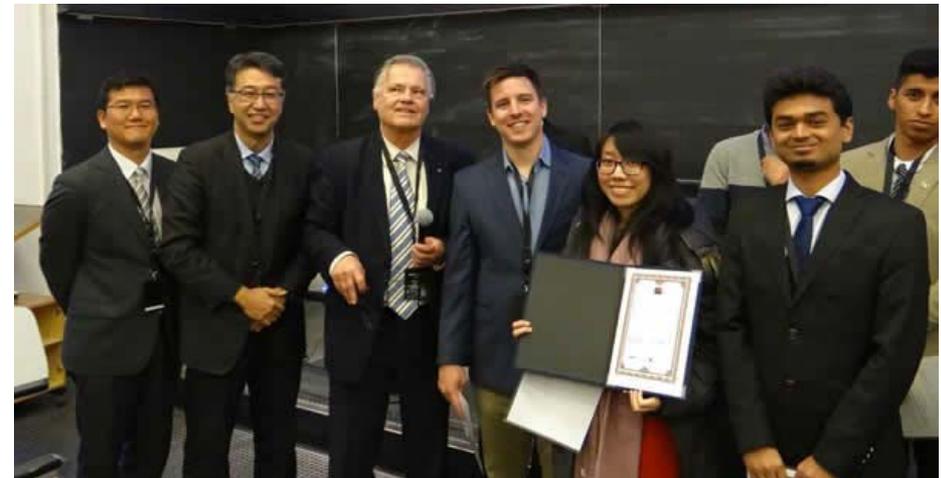
Conducted: Annually as PreMIC or MIC

- Regional coordinators from 41 countries
- Four books were published as a part of the IAA book series.



5th Mission Idea Contest in 2018

Applicants need to be aware that the missions should satisfy any of [the UN Sustainable Development Goals](#).



PreMIC5 winner in Rome, Italy

Details will be announced soon!

Debris Mitigation Competition(DMC)



- **Objective:** To facilitate the sharing of innovative solutions for debris mitigation and developing effective deorbit devices that can be demonstrated and validated with Micro/Nano-Satellites. It is also expected to increase awareness of debris problems among satellite developers and university students.
- **Launched:** November 2015
- **Conducted:** Annually



Debris Mitigation Competition 2016-2017

Parameter	DDC(2016)	DMC(2017)
Target Satellite	CubeSat (1-3U)	Micro-Satellite (50kg)
PMD/ADR	Post Mission Disposal (PMD)	PMD and Active Debris Removal (ADR)
Semi-major axis	6930 km	7128 km
Orbital inclination	97.6 deg.	98.4 deg.
Eccentricity	0.002	0.001

**Be a part of solutions,
not a part of problems**

UNISEC-Global Meeting

- **Objective:** The UNISEC-Global Meeting is an annual gathering to expand university community which intends to promote practical space projects at university level. The meeting includes Local Chapter activities report, Group discussion, Student Session, Competitions and Acknowledgement of new local chapter.
- **Launched:** November 2013
- **Conducted:** Annually

Next Meeting details will be announced soon!



History of Activities

Year/Activity	CLTP 	DMC/DDC 	MIC 	Nano-satellite Symposium 	UNISEC-Global Meeting 
2010				1 st	
2011	1 st and 2 nd		1 st	2 nd and 3 rd	
2012	3 rd		2 nd	4 th	
2013 	4th		Pre 3rd	5th	1st
2014	5 th		3 rd		2 nd
2015	6 th		Pre 4 th	6 th (ISTS30)	3 rd
2016	7 th	1 st	4 th	7 th	4 th
2017	8th	2nd	Pre 5th	8th (ISTS31)	5th

UNISEC-JAPAN

UNISEC-GLOBAL

The 2030 Agenda for Sustainable Development

SUSTAINABLE DEVELOPMENT GOALS 17 GOALS TO TRANSFORM OUR WORLD



Key principle: No one will be left behind.

The 2030 Space Agenda

In order to bridge the space divide, defined as the gap between those nations that have developed space-related capabilities and technologies and those that have limited or no access to such capabilities, the “Space2030” calls for actions under the four cross-cutting pillars and their strategic objectives:

- **Space economy**: development of space-derived economic benefits;
- **Space society**: advancement of the societal benefits of space-related activities;
- **Space accessibility**: access to space for all;
- **Space diplomacy**: building partnership and strengthening international cooperation and the governance of space activities

UNISEC-Global Vision 2030

*“By the end of 20**30**, let’s create a world where university students can participate in practical space projects in **all** countries.”*

- How can we achieve it..?
 - Each of us should think what we can do for it.
- How can we solve potential problems?
 - Debris issues, lack of radio frequencies, and..?
 - Once we can identify a problem, we can find a way.

Let’s start thinking...

Your thoughts and inputs are important!

UNISEC-Global Approaches

to achieve 2030 Vision (as of today)

- **Training Programs**
 - CanSat Leader Training Program (CLTP): Offered Annually
 - HEPTA-Sat: Offered On Demand by UNISEC-Japan
 - The International Summer Space School: Offered by UNISEC-Samara
- **Space Engineering Forums for students and Professionals**
 - UNISEC-Global Meeting
 - Nano-Satellite Symposium
- **Debris Awareness and Solution**
 - Debris Mitigation Competition (DMC)
- **Space Projects (from Mission Idea to Real Projects)**
 - Mission Idea Contest for Micro/Nano Satellite Utilization(MIC)
 - BIRDS Project (Offer by Kyutech, Japan and currently non-space faring countries are joining the project)
 - International collaborative satellite projects

UNISEC-Global's contribution to Sustainable Development



Education is a Key

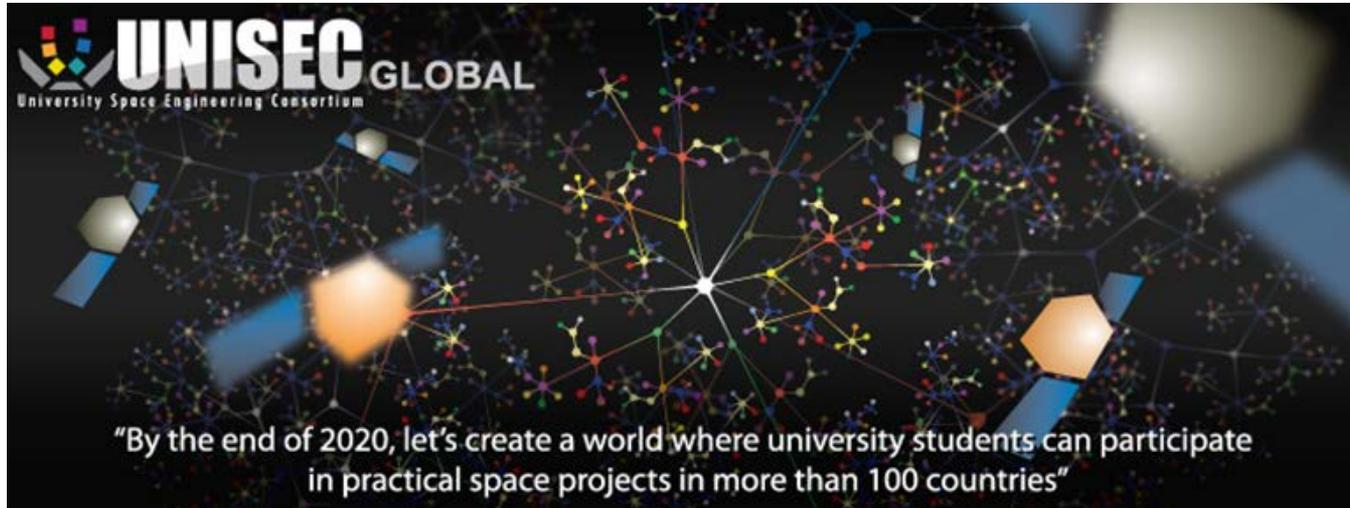
Conclusion

- UNISEC-Global was established to promote practical space projects at university level worldwide, and provided training programs, conferences and technical competitions.
- UNISEC-Global addresses the UN Space 2030 Agenda in its vision 2030-All.
- The approaches to achieve the vision 2030-All need to be explored. At this moment, UNISEC-Global offers training programs, forums, meetings, and Mission Idea Contest and Debris Mitigation Competitions.
- Education is a key. Efforts to improve quality of education will help reduce the gap between “Haves” and “Have-nots,” and will contribute to sustainable development.

***If you want to go faster,
go alone.***

***If you want to go further,
go together.***

Contact



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