UNISEC-GLOBAL

-Opening Remarks-

at Start of 2022

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What is a role of
a University-based space community
and
how to make it a stronger community ?

“University-based” space community (1)

- Uniqueness of “University” in Space Development
  - Almost all the countries have universities, even without space agency or space industry
  - Universities have been participating in practical space development/utilizations activities through research projects
  - Education and technological development are performed concurrently
  - University is not usually seeking for profit, so can be “open”
  - Combination of professional faculty members and young and energetic students
    - Professors sometimes support government’s space policy
    - Students can be strong workforce for actual development
  - Many professors in different countries already have some relationships through academic conferences, etc.

Example in Japan: **UNISEC**
(UNIversity Space Engineering Consortium)

- Founded in 2002, obtained the legal status in 2003
- 52 laboratories from 38 universities
- 826 students, 287 individual/company members
- UNISEC Missions:
  - Education and human resource training for space development and utilizations
  - Innovative space technology “seeds” development
- Activities to be Supported:
  - Joint experiment, joint development, joint education, etc.
  - Workshop, symposium, technology exchange, etc.
  - Consultation on legal matters (frequency, export law, etc.)
  - Finding “rivals” within the community !
  - “UNISEC Lecture Series”

UNISEC
University Space Engineering Consortium

http://www.unisec.jp

“University Community” Effect in Japan

58 university satellites launched in 2003-2019

Effect of seeing other universities’ activities.

- “We can do better than them!”
- “We want to hear their experiences and skills!”

“University-based” space community (2)

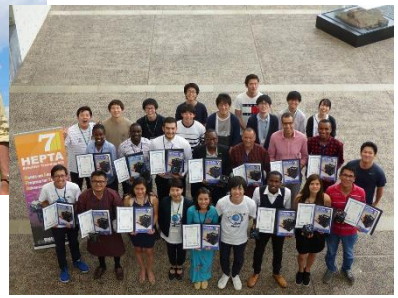
- Merits of Establishing “University Community”
  - Emerging countries can see “models” of their own futures
    - How to grow up after the first CubeSat success ?
  - Rivalry feeling encourages efforts to improve themselves
  - Advanced universities can teach novice universities
    - Teaching itself can be education for advanced universities
  - Usually “open atmosphere,” which accelerates innovations by integration of varied technologies and needs
- Why “Universities” can do space development now?
  - Micro/nano/pico-satellites provide universities with easiness to participate in practical space development
  - Recent IC technologies, open data platform of remote sensing images, etc. make space utilizations far easier

To International Level: “UNISEC-Global”

Vision 2030-ALL

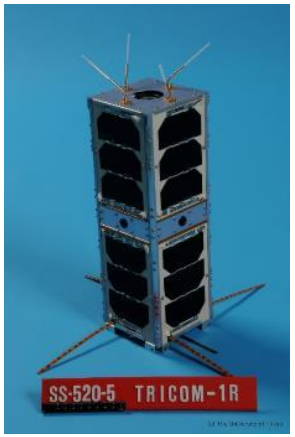
UNIGLO-Education Programs

- Mission Idea Contest
  - Education on how to create missions and basic satellite design
- Debris Mitigation Competition
  - Education on international code of conduct which every country should keep in mind
- CanSat Leader training Program (CLTP)
  - Education with hands-on training



Encouragement of Collaborations

Global Space Projects by Member Universities



Store & Forward CubeSat
"IoT" network

Standardization of
CubeSat interface

BIRDS project

Global University Space Debris
Observation Network(GUSDON)

To facilitate community activities

- Joint project
  - Joint satellite projects like “QB50”
    - Maybe difficult in this COVID-19 situation
  - More “research type” joint projects would be possible
    - Research on remote sensing to mitigate social problems, etc.
    - Various technologies around solar power satellites, etc.
    - New concept on “Software Defined Satellites (SDS)”
      - Idea competition and continuous brain storming
- Encouraging competition (rivalry) mind between members
  - “Best activity of the year” award
  - Visualization of each member’s space activities
    - A list of developed satellites, etc.

Today's Messages

「千里の道も一歩から」

"A journey of a thousand miles begins with a single step"

「継続は力なり」

"Persistence pays off."