

UNISON Japan



UNISON Japan Representatives

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Outline

- ❖ UNISON-Japan Profile
- ❖ Concept of UNISON-Japan
- ❖ How to Manage UNISON-Japan
- ❖ Working Groups' Activities
- ❖ Future Prospective

UNISON-Japan Profile

UNISON (UNISEC Student Organization)-Japan

- Established in 2003.
- Consists of about 50 organizations.
- Consists of about 800 members.
- Provide students with opportunities to participate in big projects and other activities related to space development.

Concept of UNISON-Japan



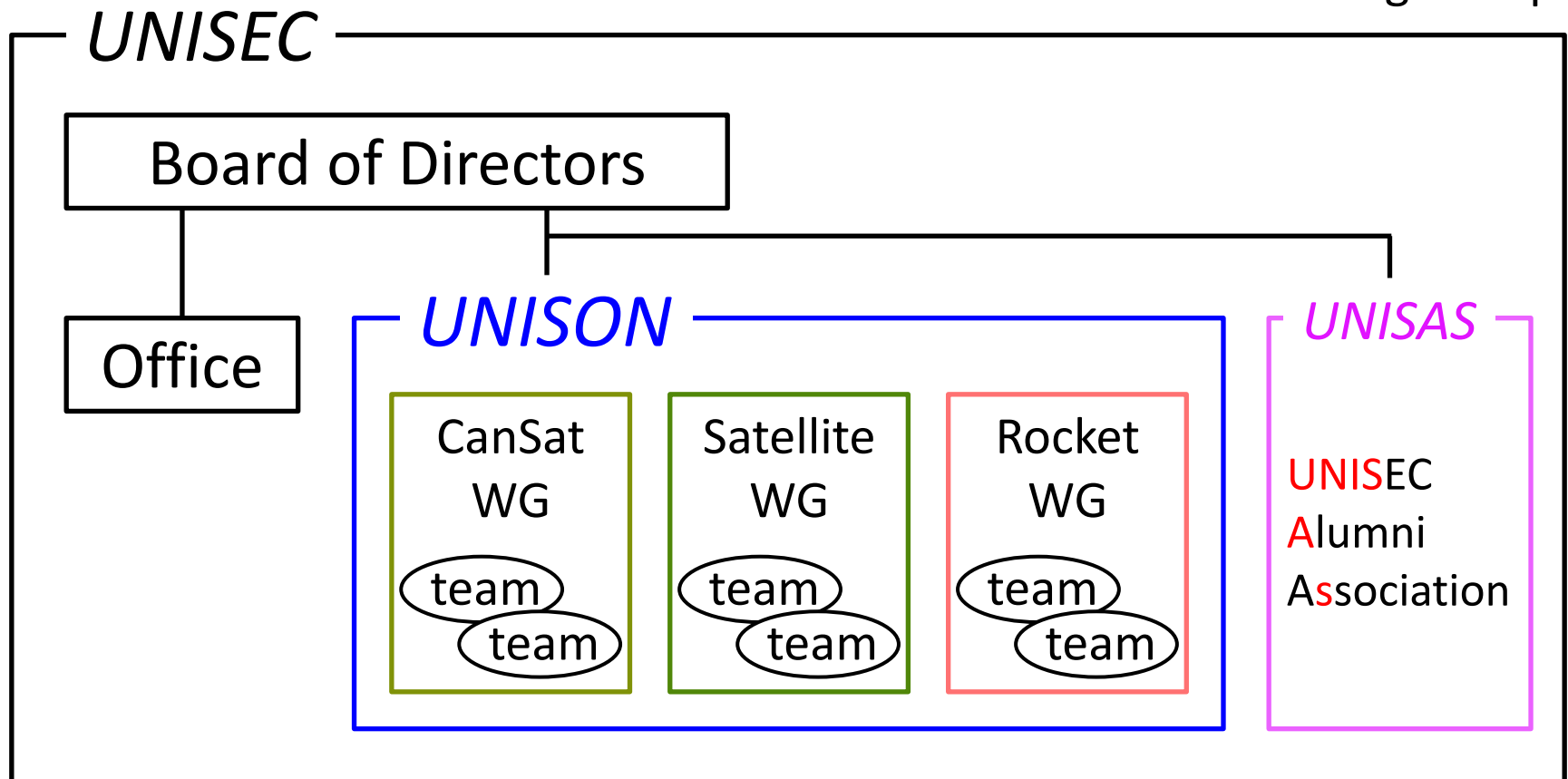
Rule of UNISON-Japan

- ❖ Payment of annual fee (3,000 yen)
 - We manage the UNISON event using only student annual fees.
- ❖ Give & Take (互助の精神 Gojo no Seishin)
 - If you want to get something in UNISON, you must give something to UNISON members.

How to Manage UNISON-Japan

❖ Organizational Chart

WG : Working Group



Activities of CanSat WG

❖ ARLISS (A Rocket Launch for International Student Satellites)

- International CanSat Competition
 - Event hosts are **UNISON Japan** and **AeroPac**.

What is CanSat?

- Nanoscale satellite model
- hands-on educational tool



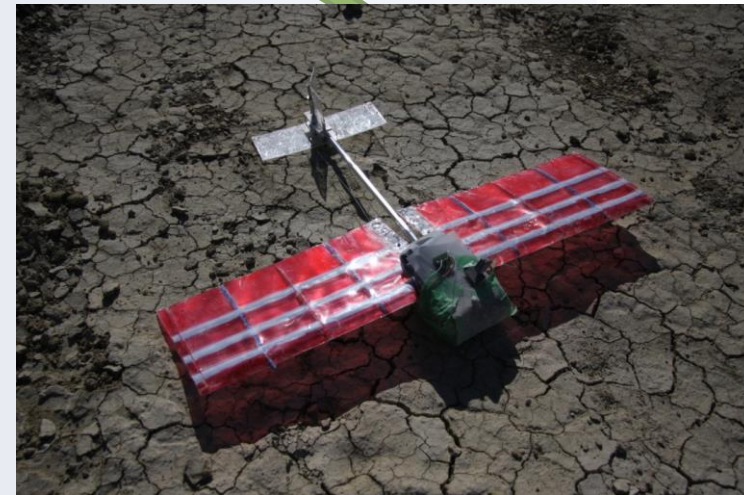
CanSat reaches at an altitude of 4km in the sky!

Many missions are carried out during decent and/or landing.

Activities of CanSat WG

❖ ARLISS (A Rocket Launch for International Student Satellites)

- **Comeback Competition**
 - CanSat aims to fall down at a target on the ground autonomously.



Flyback Strategy

Runback Strategy

Activities of CanSat WG

❖ Spindle (Systems Engineering / Project Management introductory lesson)

- Program to study the SE/PM skills



SE/PM skills

- It is very important for space development.
- Ex.) V-model, Gantt chart, Fault tree analysis...

- We can challenge an advanced mission.

❖ Long-term objective

Educational Tool

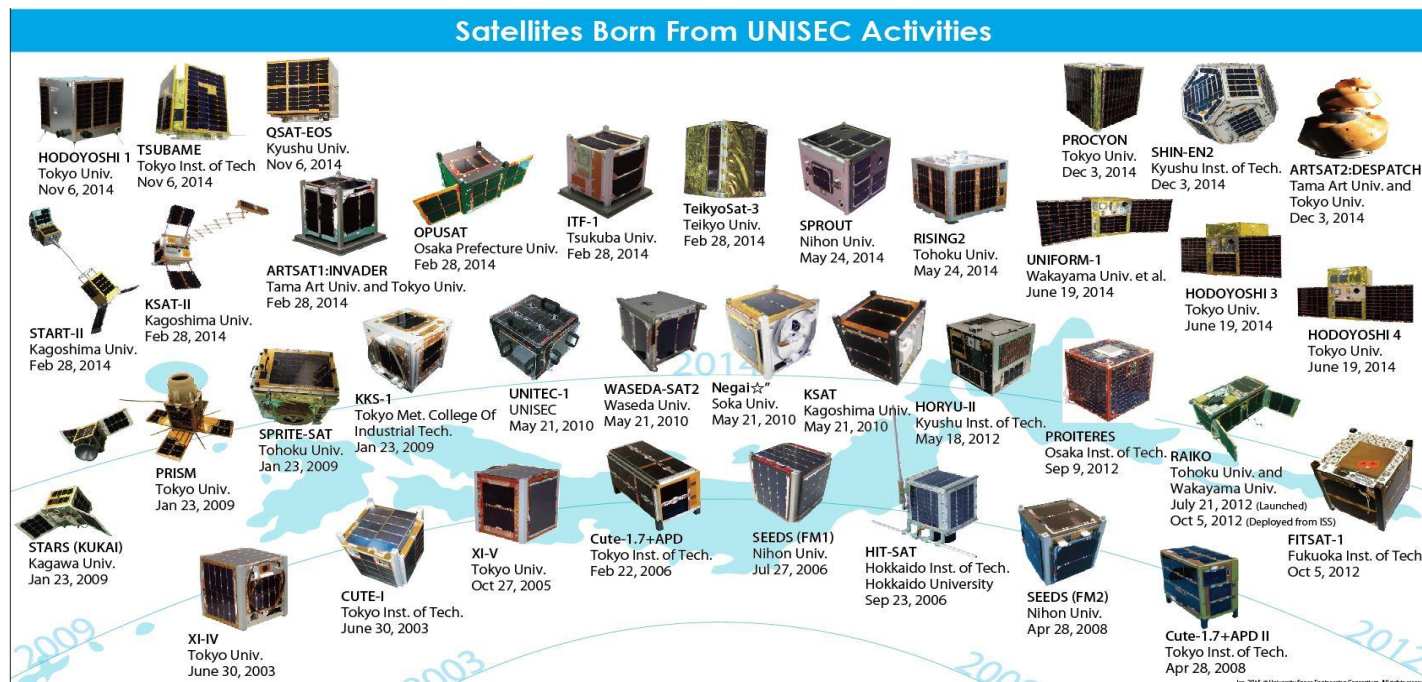


Social Contributions
Tool

Activities of Satellite WG

❖ Development of nano-satellite in Japan

- There are about 20 member organizations of UNISON who have been developing nano-satellite.
- There are 37 nano-satellites which have been launched by the end of fiscal 2014.



Activities of Satellite WG

❖ Information sharing of satellite technology

- Activation of each UNISON organization
- Improvement in the success rate of nano-satellite launch & operation

❖ Recent activities

- Organize information sharing events on nano-satellite technology with regularity

Conducted themes

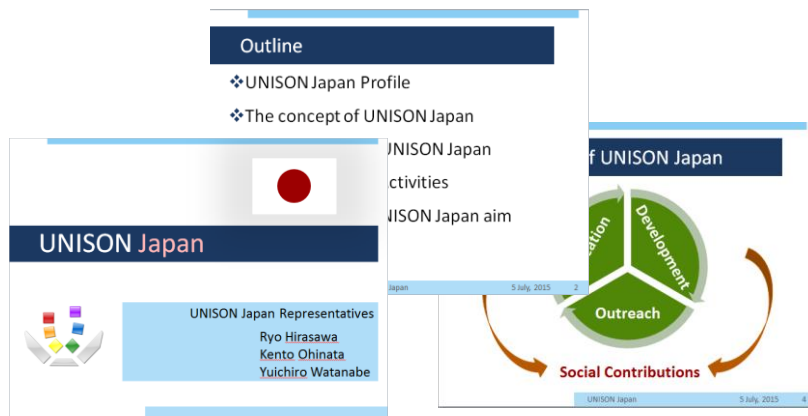
- | | |
|------------------|--------------------------|
| • Radiation test | • Attitude Control |
| • Vibration test | • Thermal analysis |
| • EPS design | • Ground Station Network |
| • Management | • And so on |



Activities of Satellite WG

❖ Information sharing database

- Technical information is stored in a database on the internet
- Anytime viewable (❌Need the Password)



Power point of presentation



Database on the internet

Activities of Rocket WG

❖ Joint launch experimental rocket in JAPAN

NOSHIRO

- Hold the Noshiro space event in August
- The launch can be reached at an altitude of 2,000m

KADA

- Nearby access from the town is good
- The launch can be reached up to 400m

IZU OSHIMA

- Using the island to launch experiment
- The launch can be reached up to 2,000m

Activities of Rocket WG

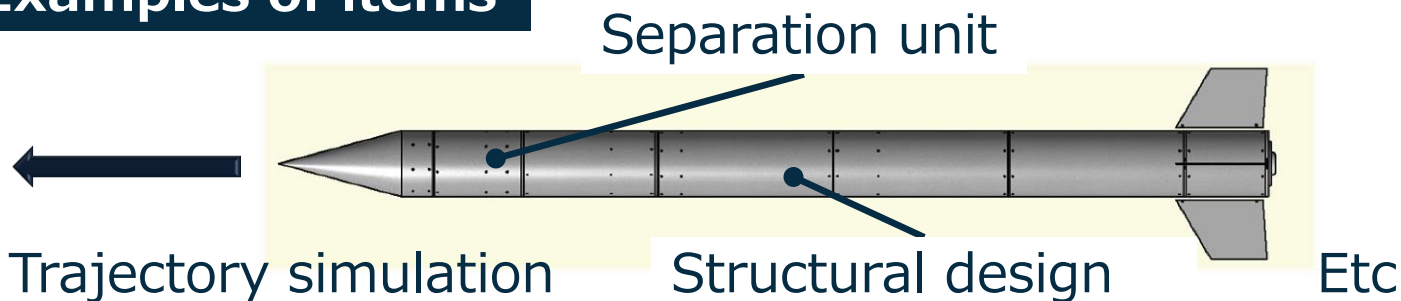
❖ Safety Management of Rocket Launch

* Implementation of safety review

Based upon advices from the experts such as teachers, safety review is implemented.

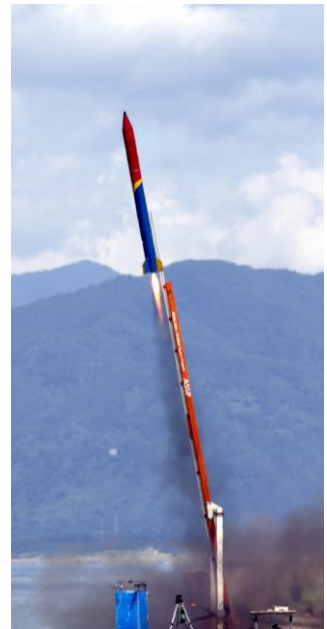
Safety review depends on the conditions of each launch site.

Examples of items



In Japan, ensuring large areas of performing easy launch is limited.

It is important to get understanding of local residents.



UNISAS (UNISEC Alumni Association)

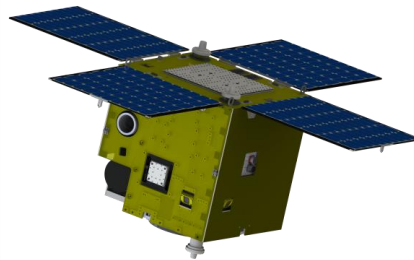
- ❖ After graduation from university...
 - We belong to **UNISAS**!
- ❖ UNISON/UNISAS Collaboration Event
 - Students make personal connections.
 - Students can learn the alumni's know-hows and experiences.



Future Perspective

❖ Long-term Goal

- We should contribute to the society using our learning & experiences about space development and activities.
 - Now Educational activities
 - Future Social Contributions activities



What can we do
for society?

Thank you all for your attention.