UNISEC-Japan
Regional Report 2024

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Board member of UNISEC-Japan

2025. 11. 2

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Overview of UNISEC-Japan

- UNISEC: “University Space Engineering Consortium”
  - UNISON: UNISEC Student Organization
  - UNISAS: UNISEC Alumni Organization
- Established in 2002
- NPO/NGO to facilitate/promote university level students’ practical space development activities, such as designing, manufacturing and launching small satellites and hybrid rockets.
- 53 laboratories/groups from 40 universities
- 704 student members, 238 individual supporters, and 25 corporate supporters
- 3 pillars: Human resource development, Technological development, Outreach

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Activities in FY 2024

2024

- July 28: General assembly
- Aug.14-23: Noshiro space event (CanSat, Rocket)
- Aug.19-29 CanSat Leader Training Program
- Sept.9-13: ARLISS
- Dec.6-7: Space Engineering Conference
- December 21-22: Annual Workshop

2025

- March 16-23: Izuohsima Rocket Campaign
- March 21-22: Tottori Lunar Rover Challenge
- March 25-31: Kata Rocket Campaign
- April-May: UNISEC Academy
- May 24: UNISEC SPACE Job Fair

- Mission Assurance Activities
- J-Cube promotion
- CubeSat Salon

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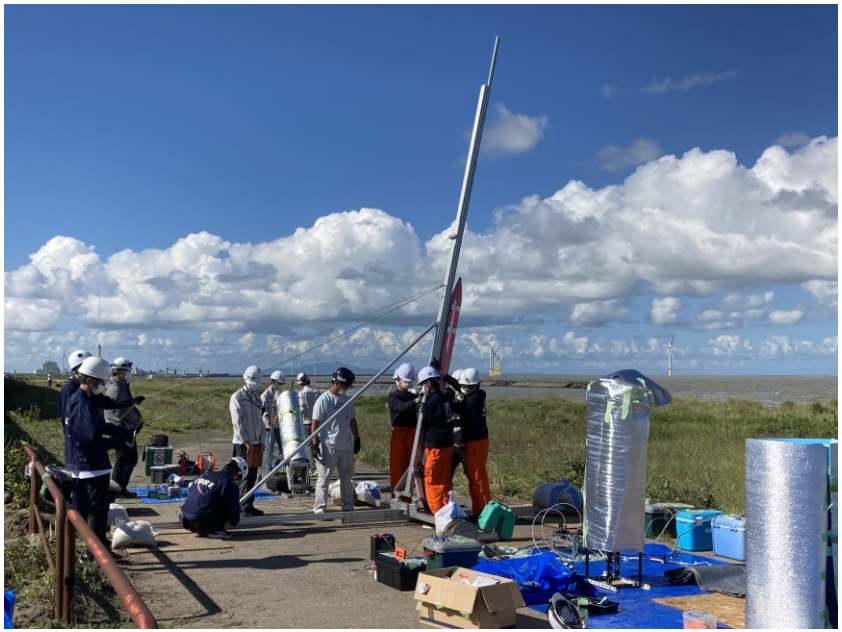
Student activities



Rocket

Lunar Rover

https://www.atpress.ne.jp/news/364331

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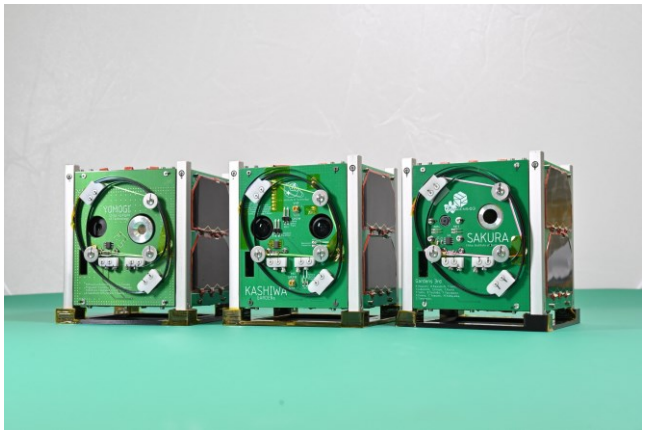
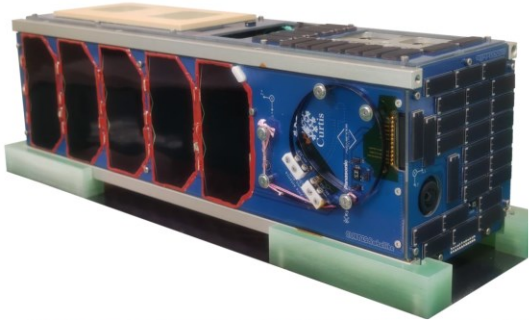
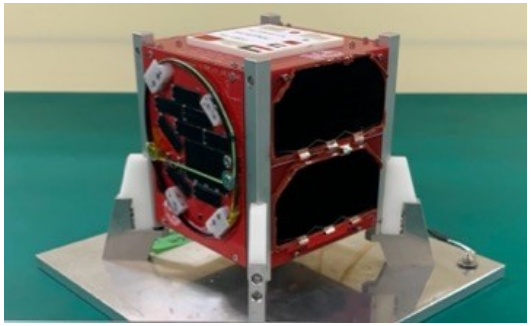
University satellites launched in 2024



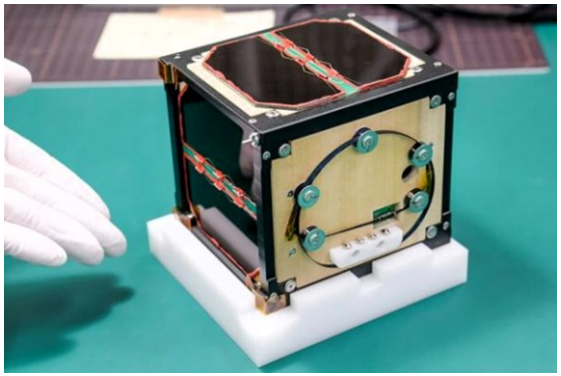
Yomogi, Kashiwa, Sakura
(ChibaTech)



Curtis
(Kyutech/Panasonic)

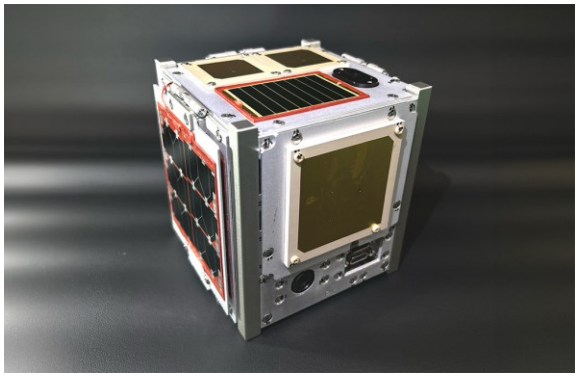


MO-1
(Kyutech/MicroOrbiter)



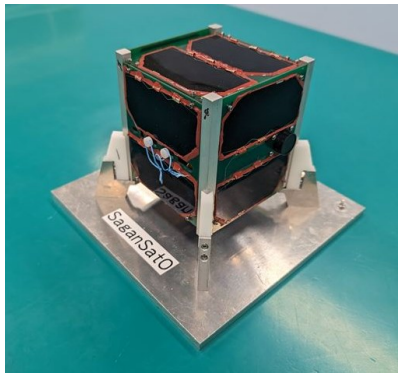
LignoSat
(Kyoto U.)

https://www.independent.co.uk/space/japan-wooden-satellite-space-launch-lignosat-b2642211.html



DENDEN-01 (Kansai U., Meijo U., Fukui U., ArkEdge)

https://jp.ricoh.com/release/2024/0625_1



SaganSat
(Kyutech/Saga Pref.)

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Mission Assurance Activities

Promotion of mission assurance activities with the support of JAXA

Information sharing portal site

Mission assurance handbook

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Mission Assurance Handbook

- Target satellite projects at universities and polytechnic-colleges in Japan
  - Not only the first project of the universities, but also the second and later projects
- Summary of points to be kept in mind of faculty members and students to improve the mission success rate
- English version is also available online
- Currently version 4
- Contents

1. Introduction
2. Project management (10)
3. Mission definition (5)
4. Conceptual design (5)
5. Detail design (11)
6. Production (3)
7. Testing (16)
8. Operation (3)
9. Post-operation (3)
10. Sustainability of university satellite program (4)

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Information sharing portal site

https://ma.unisec.jp/

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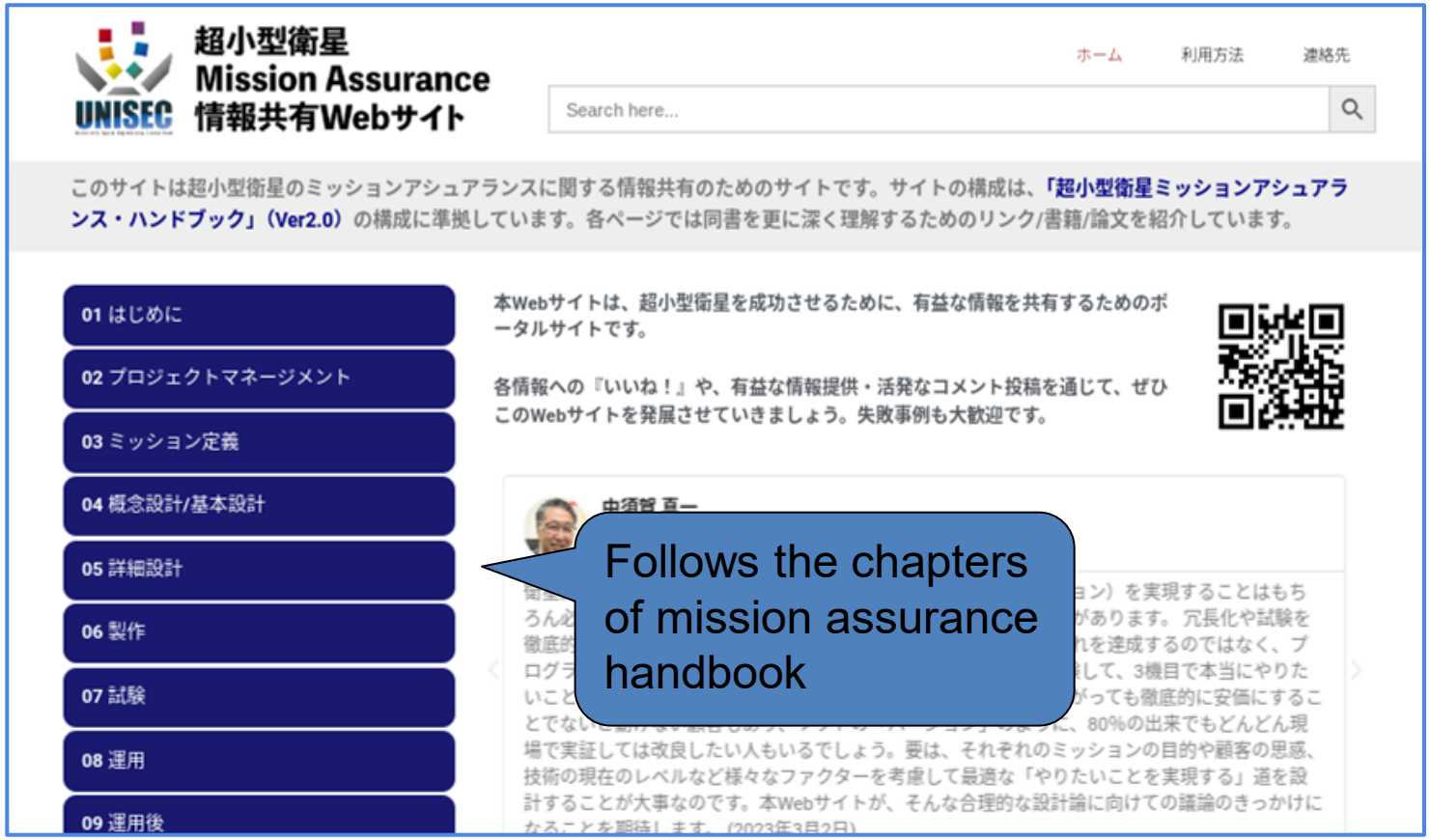

- Portal site to get useful information to have a successful satellite mission
- Access to documents written in Japanese (and English)

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CubeSat Salon

- Offer consulting service free of charge
  - Once a week, fiver slots (one hour each)
- CubeSat projects
  - As early stage as possible
- Companies who want to enter the space sector
  - Business possibility
  - How to persuade the management
- Relaxed atmosphere over coffee or tea
- **<u>Open to overseas</u>**

Walking distance from Tokyo station

Reservation

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J-Cube

Introducing

J-CUBE

Your Future CubeSats

A new collaboration between JAXA and UNISEC to help emerging space nations get their ~~first~~ CubeSats deployed into Low-Earth Orbit via the ISS.

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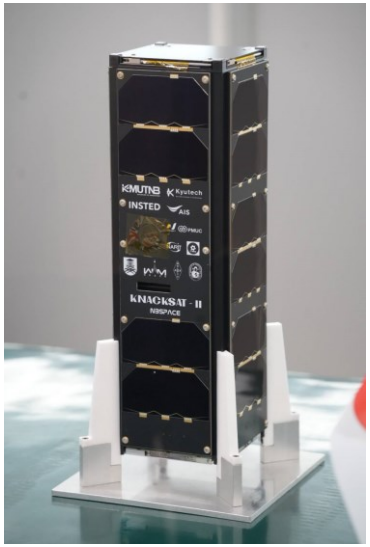
J-Cube

Satellites already launched

Maya-5, Maya-6 (Philippine)

BIRDS-X (Sri Lanka)



KnackSat II (Thailand)

https://www.nanosats.eu/sat/knacksat-2

UiTMSAT-2 (Malaysia)

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Conclusion

- Since 2002, UNISEC has been successful to provide valuable engineering talents to Japanese society
- Supported by individual, corporations, government, agency
  - But most of all, students
- UNISEC Japan continues working hard to promote the university space activities

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