Presenters, please have the presenter seats of Left and Front side.
UNISON GLOBAL
Self introduction

Yuta Kusano  Xiao MA
Do you enjoy staying in JAPAN?
Have You Eaten Japanese Foods?
Why did you come to JAPAN?
You attend to UNISEC/UNISON GLOBAL,
You make presentation,
You share information,
You have interaction,
We will promote Student Space Development Activities,
Are you ready?
Let’s start to UNISON GLOBAL!!
UNISON JAPAN Activities

Yuta Kusano, Student Representative of UNISON Japan (Tokai University)

Xiao Ma, Student Representative of UNISON Japan (Tsukuba University)
Outline

1. What is UNISON?
2. Past – 12 years –
3. Present – 12 months –
4. Future – In 2020 –
5. Conclusion
1. What is UNISON?
What is UNISON?

UNISON is the student organization of UNISEC.

UNISEC (University Space Engineering Consortium)

UNISON (UNISEC Student Organization)
UNISEC
is a non-profitable organization
to support practical space development activities
in universities and colleges,
such as small satellite and hybrid rockets.

UNISEC (University Space Engineering Consortium)

UNISON (UNISEC Student Organization)
What is UNISON?

UNISEC student organization, UNISON
- Students in UNISEC belongs to UNISON

Limited Resources, Limited Technologies in each university/group

Generation of "Competition" and "Cooperation"

Improve technologies and Motivate students
What is UNISON?

Members

800

Throughout Japan from Hokkaido to Kagoshima
What is UNISON?

Value of UNISON
- 互助の精神 -

Participants = Operator
“互助の精神” is
“Spirit of 互助”
What is  “互助”？
What is UNISON?

Working Group

Satellite

Rocket

CanSat

Ground Station

Outreach

Networking
2. Past–12 years–
What is UNISON?

UNISON is 12 years old.
2. Past-12 years-

UNISECから生まれた衛星たち

Satellites Born From UNISEC Activities
2. Past-12 years-

130
2. Past-12 years-

300
3. Present–12months–
3. Present–12months–

**One-Year Plan**

**Summer**

1. General Meeting
2. Noshiro Space Event
3. ARLISS

**Autumn**

4. UNISEC GLOBAL
5. Workshop

**Spring**

**Winter**

Annual Report
What is “UNISEC General Meeting” ??

General Meeting is a precious opportunity for all UNISEC (and of course UNISON) members to gather at the same time/place. General Meeting is like a symbol of the start in the year in UNISEC/UNISON.
32 Organizations
191 Participants
What is “Noshiro Space Event”??

In Akita Prefecture were conducted of pencil rocket flight experiments. It is held as Japan space event in August. Student organizations make Rockets and Cansats for this event experiments or competitions.
2403 meters high
850 Students
What is “ARLISS”? 
ARLISS is Cansat competition carried out in Black Rock Desert of the USA in September each year. CanSat is released from the rocket in the sky of about 4km high and then aims the goal. Gathered teams from around the world have exchanged of technology and culture in ARLISS.
3. Present-12months-

UNISEC GLOBAL

What is “UNISEC GLOBAL” ??
UNISEC GLOBAL is a very big event that gathers space development officials from around the world. In this meeting, we make interaction and exchange information with participants.
31 Countries
112 Participants
What is "UNISEC Workshop" ??

Workshop is also a precious opportunity for all UNISEC (and of course UNISON) members to gather at the same time/place. In Workshop we report our activities of this year.
4. Future-In 2020-
Future - Future Outlook

Competition

Cooperation
Future – Future Outlook ② – Challenging Mission
UNISON Project
M-II Cansat–Rocket Collaboration Project

**Member**

9 Univ. and 22 students attended the project.

**Object**

Broke the highest altitude record of hybrid rocket in UNISON–Japan, 1300 m etc...
CanSat Mapping

http://cansat.mapping.jp/
Future—Future Outlook ③—

Globalization
5. Conclusion
Conclusion

1. What is UNISON?
2. Past – 12 years –
3. Present – 12 months –
4. Future – In 2020 –
Laboratories in KIT

UNISON GLOBAL
Nov. 18th 2014
Cho Lab
Okuyama Lab
Hiraki Lab
Yonemoto Lab
La Place

Laboratory of Plasma, Laser, and Computational Electromagnetics
La Place - Toyoda Lab - Research

“Standardization of small satellite test”

- Cho Lab - Research

- Toyoda Lab - Research

“Charging & Discharging”

- Iwata Lab - Research

“Characteristics of Space Material”

http://lunar-dream.com/join/messenger/
Project

CanSat Project

World Competition

Horyu Project

Develop real Satellite
Okuyama Laboratory!

D1 (doctoral) 2
M2 (master) 3
M1 (master) 2
B4 (Bachelor) 3
Research Student 1
**Shinen2**

**MISSION**

Demonstration of the deep space communication using the amateur radio band

The first use the CFRTP in space to the main structure material

Launch November 30 !!!
Our laboratory

We’ll research whatever moves!

Representative research theme

Parafoil
- Aerodynamics of parafoil
- Guidance control method using parafoil

Flapping robot (Ornithopter)
- Development of ornithopter which is an aircraft that flies by flapping its wings.

Reentry capsule
- Dynamic stability of reentry capsule
CanSat-development team
KINGS

Mission sequence

1. Release from rocket
2. Open parachute
3. Open parafoil
4. Flight
   - Guidance control
   - Video filming
5. Landing less than 200m radius from Destination
Space Systems Laboratory
Kyushu Institute of Technology
What is “Space System Lab.”

Space System Laboratory is one of the studying about space in Kyutech (Kyushu Institute of Technology).

The laboratory’s main studies are Mars plane and Winged Reusable Rocket called “WIRES”.
What is “WIRES”

WIRES is Winged Reusable Rocket developed since 2005. Final target is reaching the space (100km altitude).
Flight Test

Test Result  6/28/2013
Thank you!
2nd Part will start at 10:50
UNISEC Global
start at
15:30
You have only
8 min

(1st ring: 5min, 2nd ring 8min)
Presenters, please have the presenter seats of Left and Front.
Discussion Theme 9: How to Manage UNISON
Presenter: Yuta Kusano (JAPAN)
Discussion results in the last year

Vision of UNISON—global

- Activate space developments in Cooperation and Competition of UNISON of all regions.
- Challenge international missions we cannot achieve alone.
Discussion results in the last year

Future plans to promote UNISON-global
- First UNISON-Global Meeting at Second UNISEC-global meeting
- Road map to UNISON-local
- Documentation and Road map to UNISON-Global