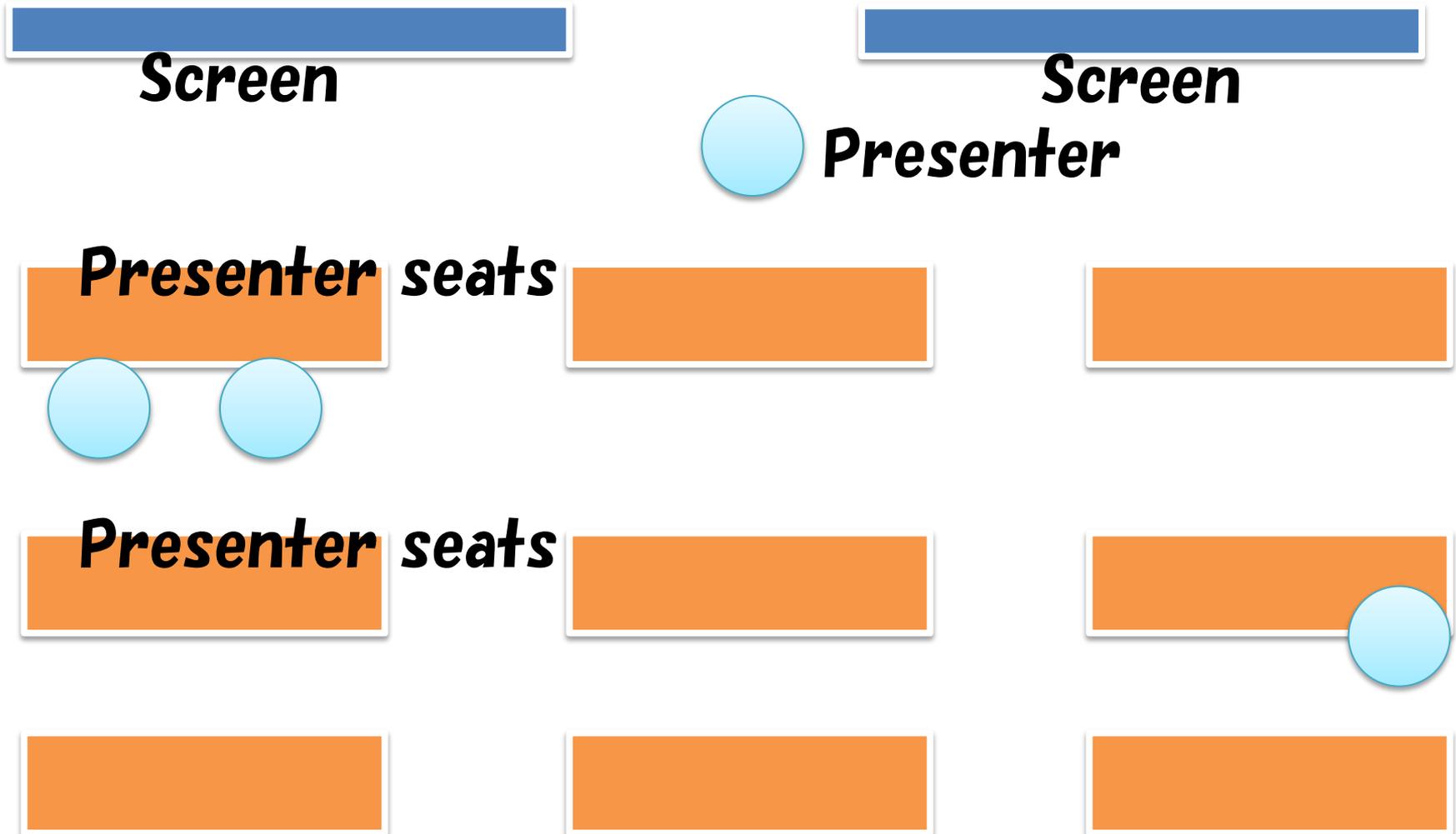


Presenters, please have the presenter seats of Left and Front side.



UNISON GLOBAL



Self introduction

Yuta Kusano



Xiao MA



**Do
You
Enjoy
Staying
in JAPAN ?**

**Have
You
Eaten
Japanese
Foods ?**







Just Wait

***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.**

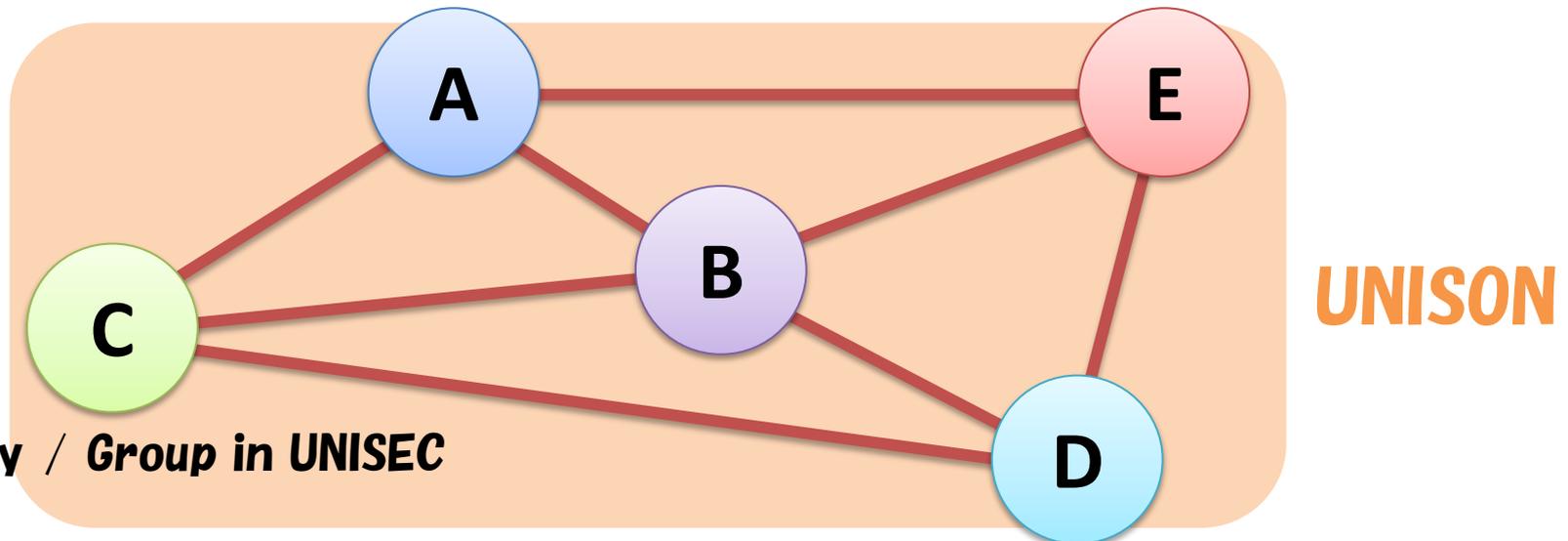
UNISEC(University Space Engineering Consortium)

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”

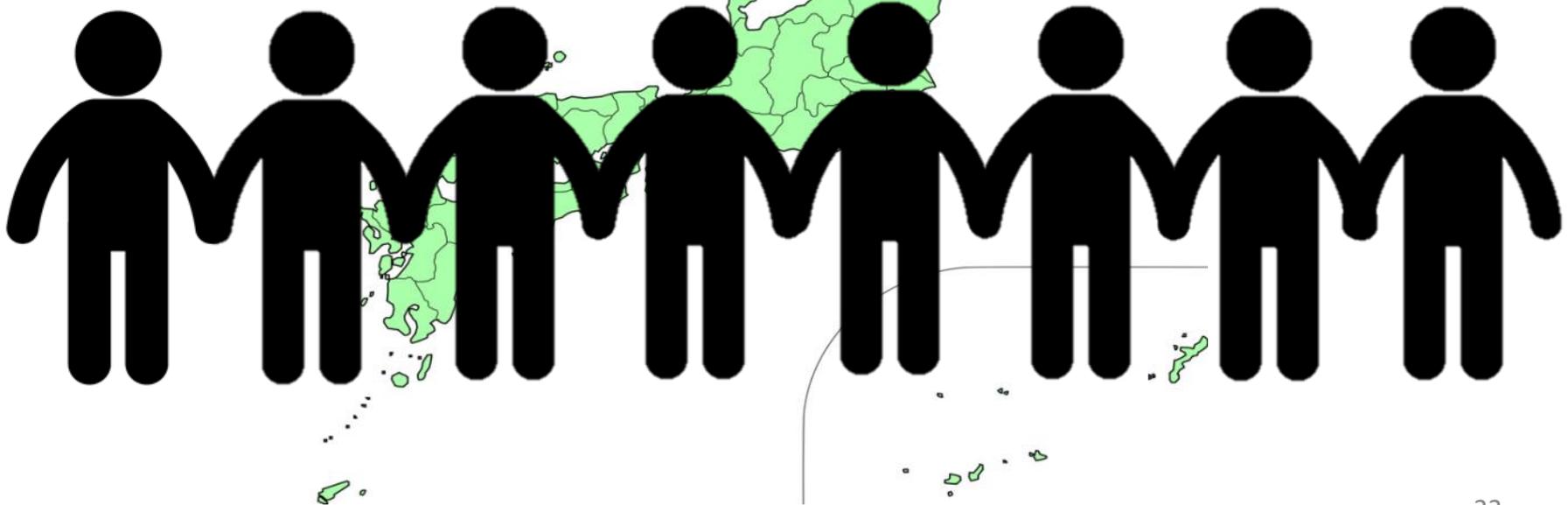
Improve technologies and Motivate students

What is UNISON ?

Members

800

Throughout Japan from Hokkaido to Kagoshima



What is UNISON ?

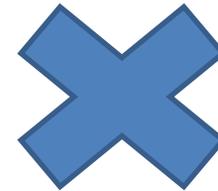
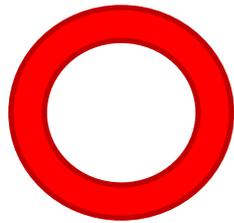
Value of UNISON

- 互助の精神 -

Participants = Operator



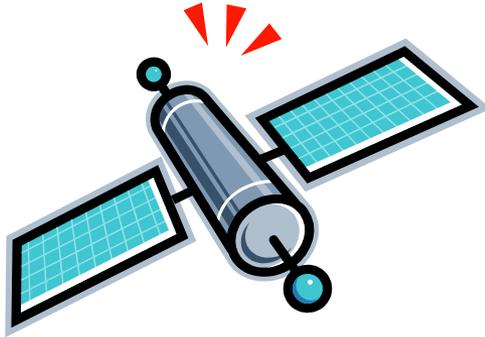
**“互助の精神” is
“Spirit of 互助”
What is “互助” ?**



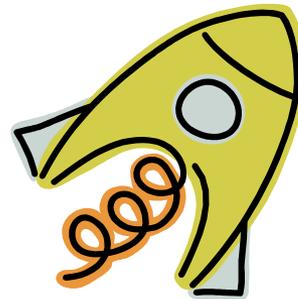
What is UNISON ?

Working Group

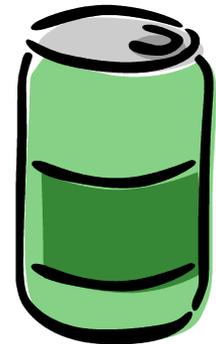
Satellite



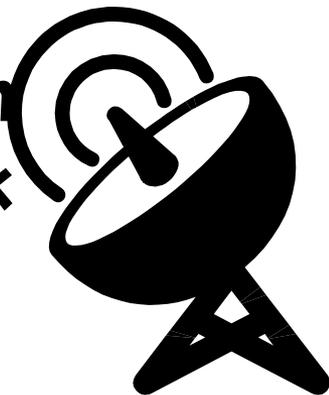
Rocket



CanSat



**Ground
Station
Network**



Outreach



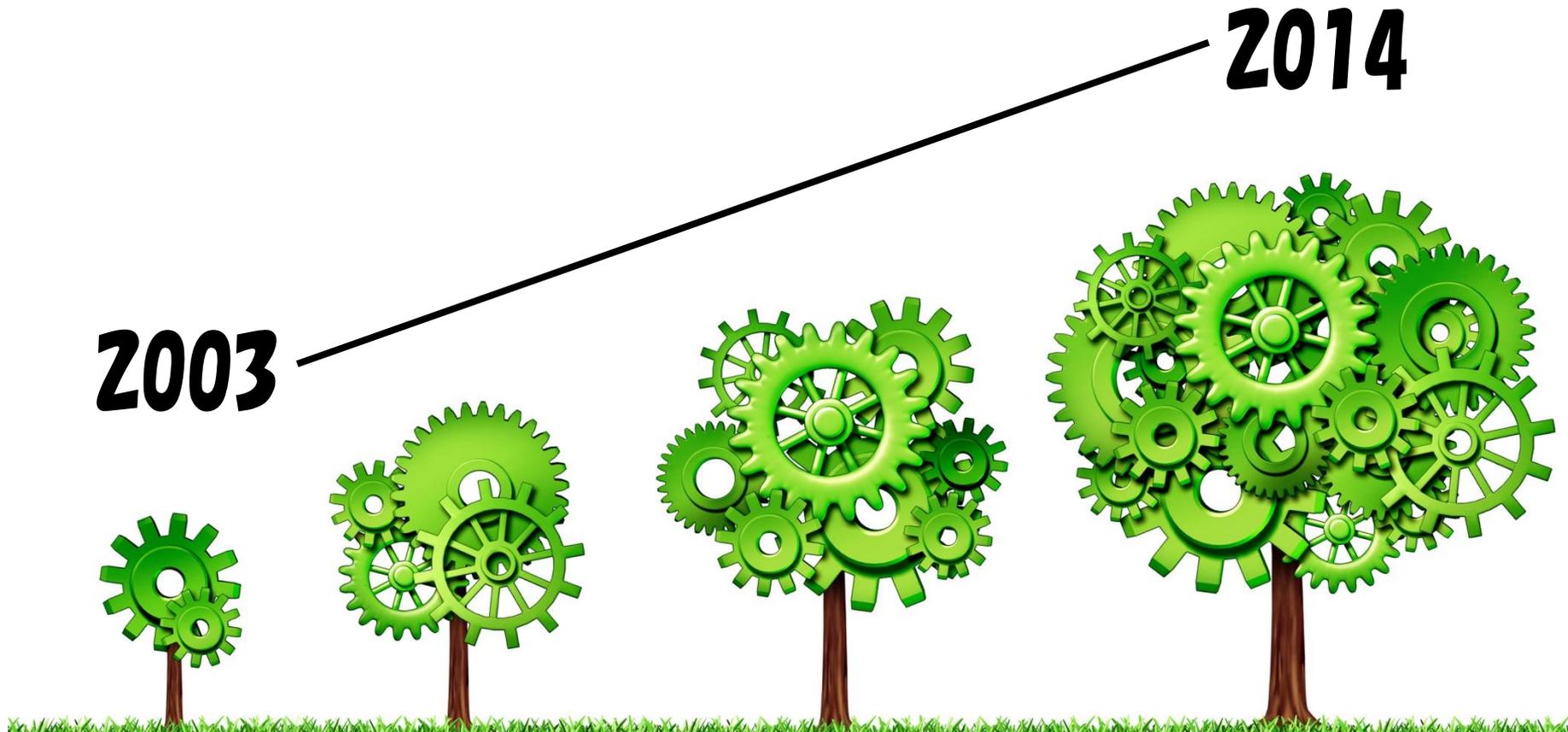
Networking



2. Past-12years-

What is UNISON ?

UNISON is 12 years old



2. Past-12years-

29

UNISECから生まれた衛星たち

Satellites Born From UNISEC Activities



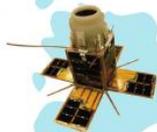
鳳龍弐号 (HORYU-II)
九州工業大学
May 18, 2012



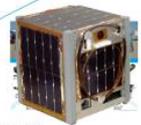
PROITERES
大阪工業大学
Sep 9, 2012



STARS (KUKAI)
香川大学
Jan 23, 2009



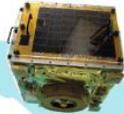
ひとみ (PRISM)
東京大学
Jan 23, 2009



XI-IV
東京大学
June 30, 2003



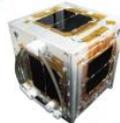
CUTE-I
東京工業大学
June 30, 2003



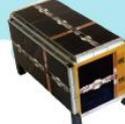
雷神 (SPRITE-SAT)
東北大学
Jan 23, 2009



XI-V
東京大学
Oct 27, 2005



輝汐 (KKS-1)
東京都立産業技術
高等専門学校
Jan 23, 2009



Cute-1.7+APD
東京工業大学
Feb 22, 2006



しんえん (UNITEC-1)
UNISEC
May 21, 2010



SEEDS (FM1)
日本大学
Jul 27, 2006



WASEDA-SAT2
早稲田大学
May 21, 2010



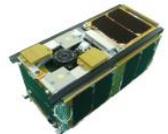
HIT-SAT
北海道工業大学
北海道大学
Sep 23, 2006



SEEDS (FM2)
日本大学
Apr 28, 2008



Negai☆
創価大学
May 21, 2010



RAIKO (雷鼓)
東北大学
和歌山大学
July 21, 2012 (打ち上げ日)
Oct 5, 2012 (ISSからの放出日)



ハヤト (KSAT)
鹿児島大学
May 21, 2010



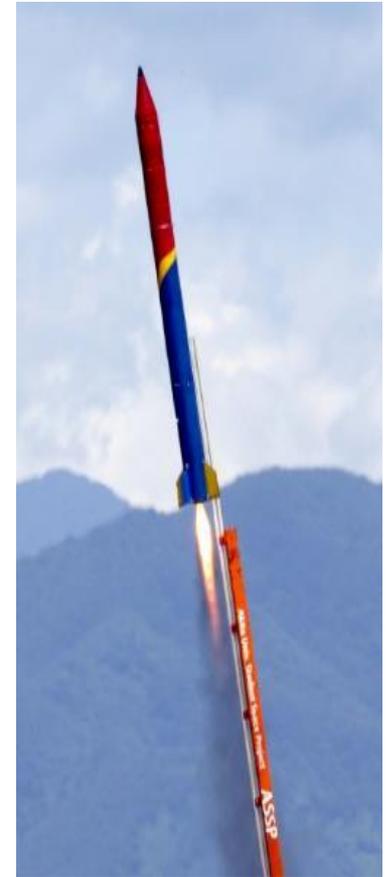
Cute-1.7+APD II
東京工業大学
Apr 28, 2008



UNISEC
University Space Engineering Consortium

2. Past-12years-

130



2. Past-12years-

300



3. Present-12months-

3. Present-12months-

Summer One-Year Plan Spring

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

4. UNISEC GLOBAL

5. Workshop

Autumn

Annual Report

Winter

3. Present-12months-

General Meeting

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

3. Present-12months-

Noshiro Space Event

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

3. Present-12months-

ARLISS

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.



A group of people are seated at tables in a restaurant or cafe. The scene is brightly lit, with coats hanging on a rack in the background. The text '31 Countries' is overlaid in large, white, bold font with a black outline. The number '31' is positioned above the word 'Countries'.

31
Countries

1 1 2

Participants



3. Present-12months-

Workshop

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 ①-

Competition



Cooperation

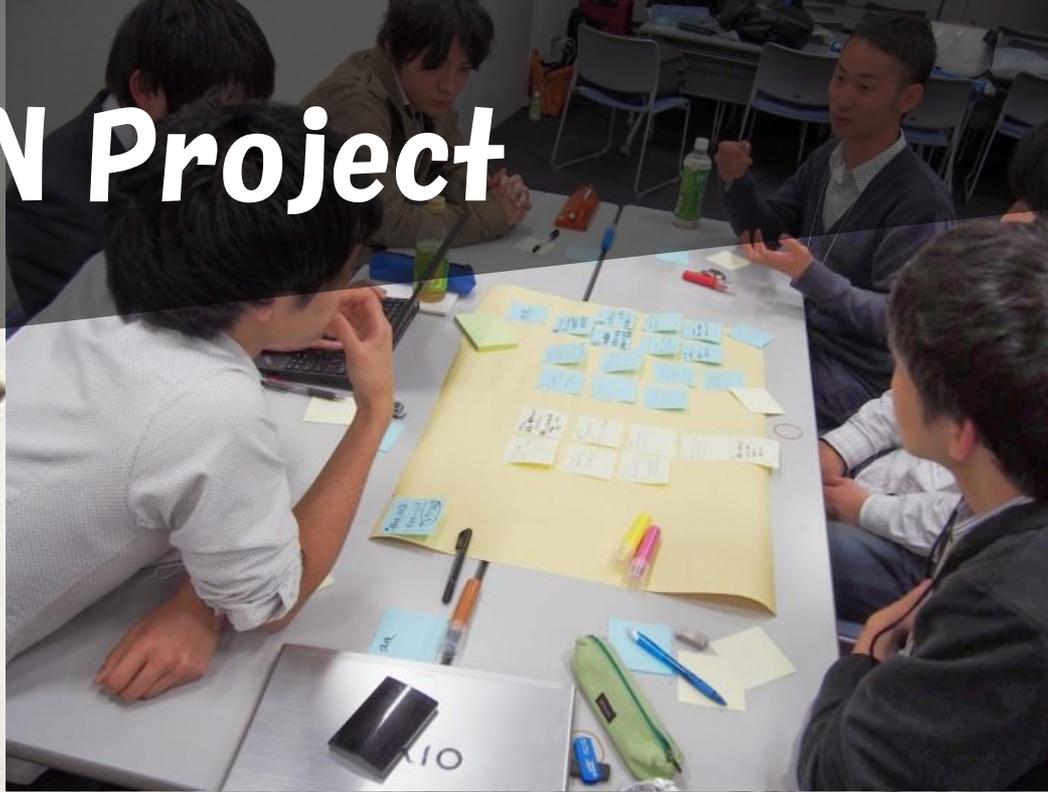


Future-Future Outlook ②-

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

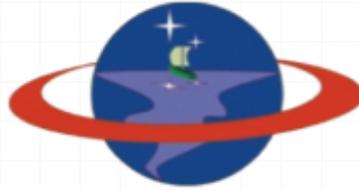
Cho Lab

Okuyama Lab

Hiraki Lab

Yonemoto Lab





La Place

Laboratory of Plasma, Laser, and Computational
Electromagnetics

La Place



- Cho Lab -

Research

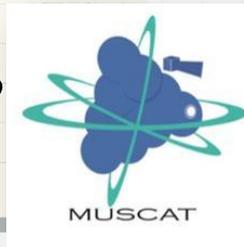
“Standardization of
small satellite test”



- Toyota Lab -

Research

“Charging
&
Discharging”



- Iwata Lab -

Research

“Characteristics
of Space Material”



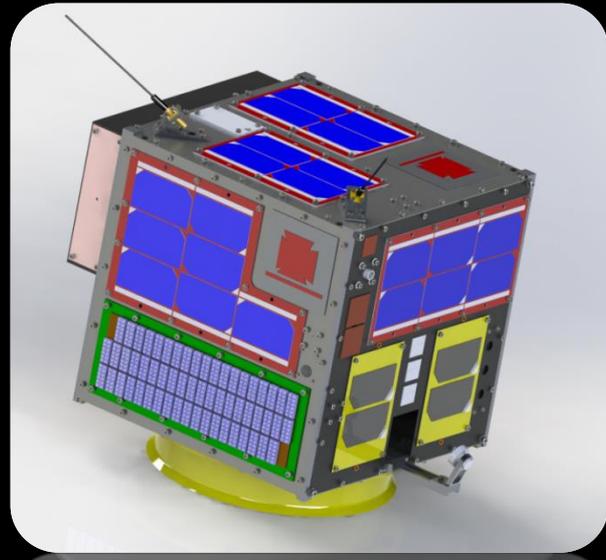
<http://lunar-dream.com/join/messenger/>

Project

CanSat Project



Horyu Project



World Competition



Develop real Satellite



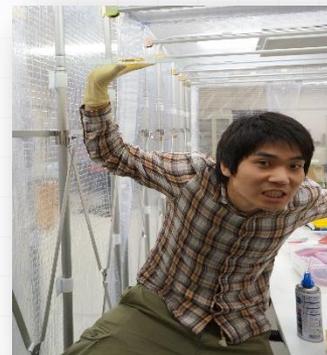


Okuyama Laboratory



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 ! !



Shinen2



Space Dynamics Laboratory



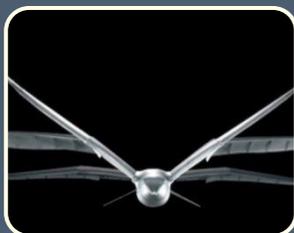
We'll research whatever moves!

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.

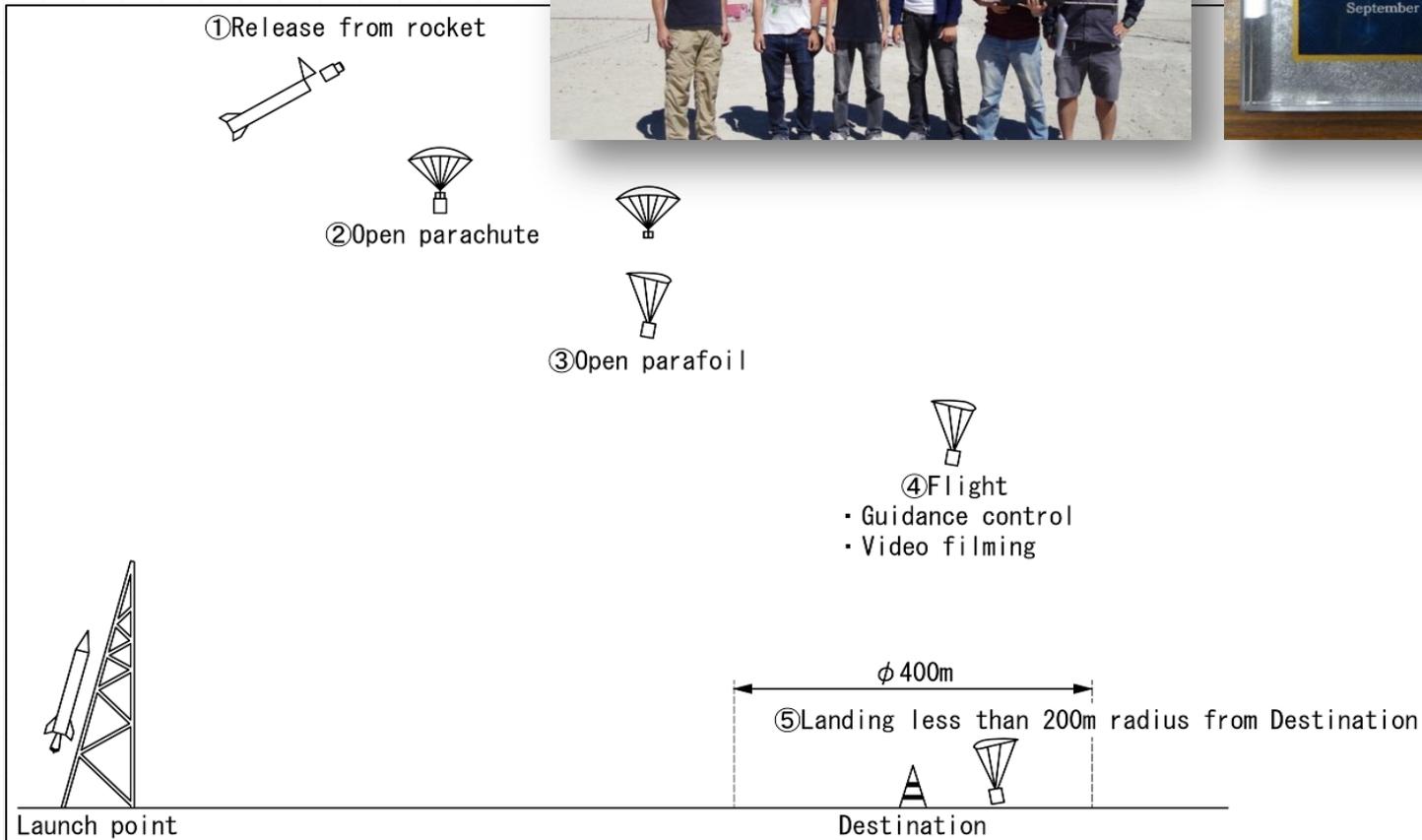


Reentry capsule

- Dynamic stability of reentry capsule

CanSat-development team

KINGS



Mission sequence

Space Systems Laboratory

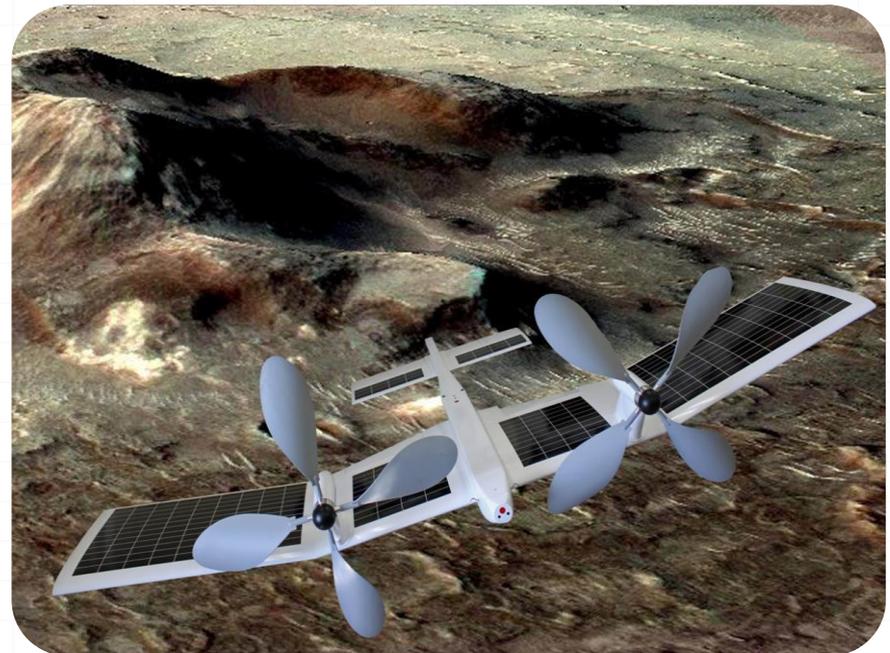
Kyushu Institute of Technology



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

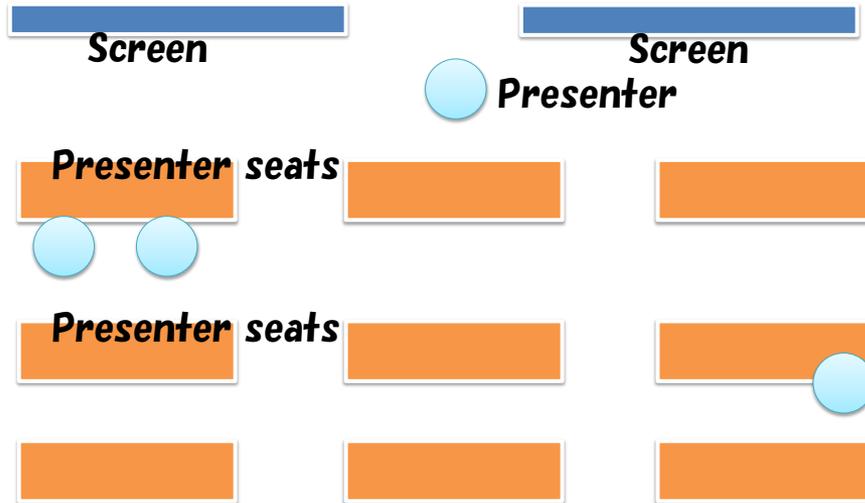
15 : 30

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 can not 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**