Managemant of Launchsite by Student

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@UNISEC-Global Student presentation

Kyohei Yashima @TokyoTech

Presentor

Kyohei Yashima

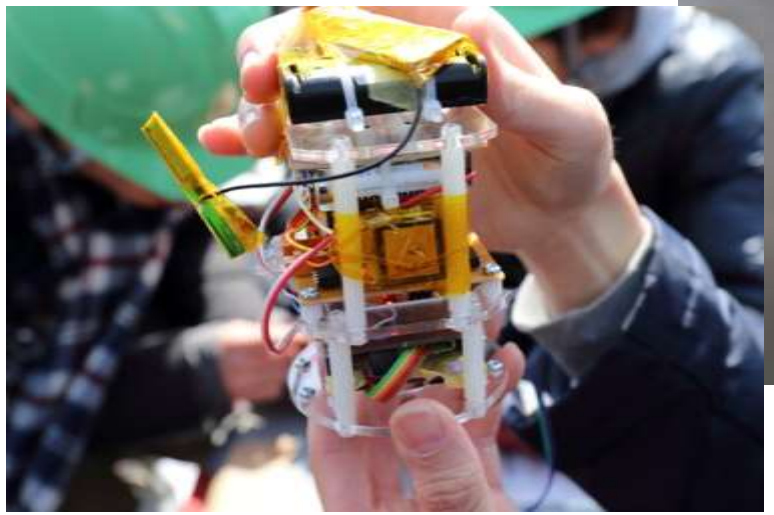
- Tokyo Institute of Technology
- Research area : deployable membrane
- Representative of UNISON-Japan, Rocket WG

Back ground

- In Japan, **17 teams** are developing and launching about **30 hybrid rockets** in 2016

- We have **three launch site** for hybrid rocket, Noshiro-Akita, Oshima-Tokyo and Kada-Wakayama

- All experiments in these launch site mainly **managed by students**



Launch site in Japan

- Noshiro - Akita pref.
  - Most biggest launch site for hybrid rocket
  - The event in August contain Rocket, CanSat competition

- Kada – Wakayama pref.
  - In this launch site, we launch mainly model rocket
  - Lectures of rocket girl & boy

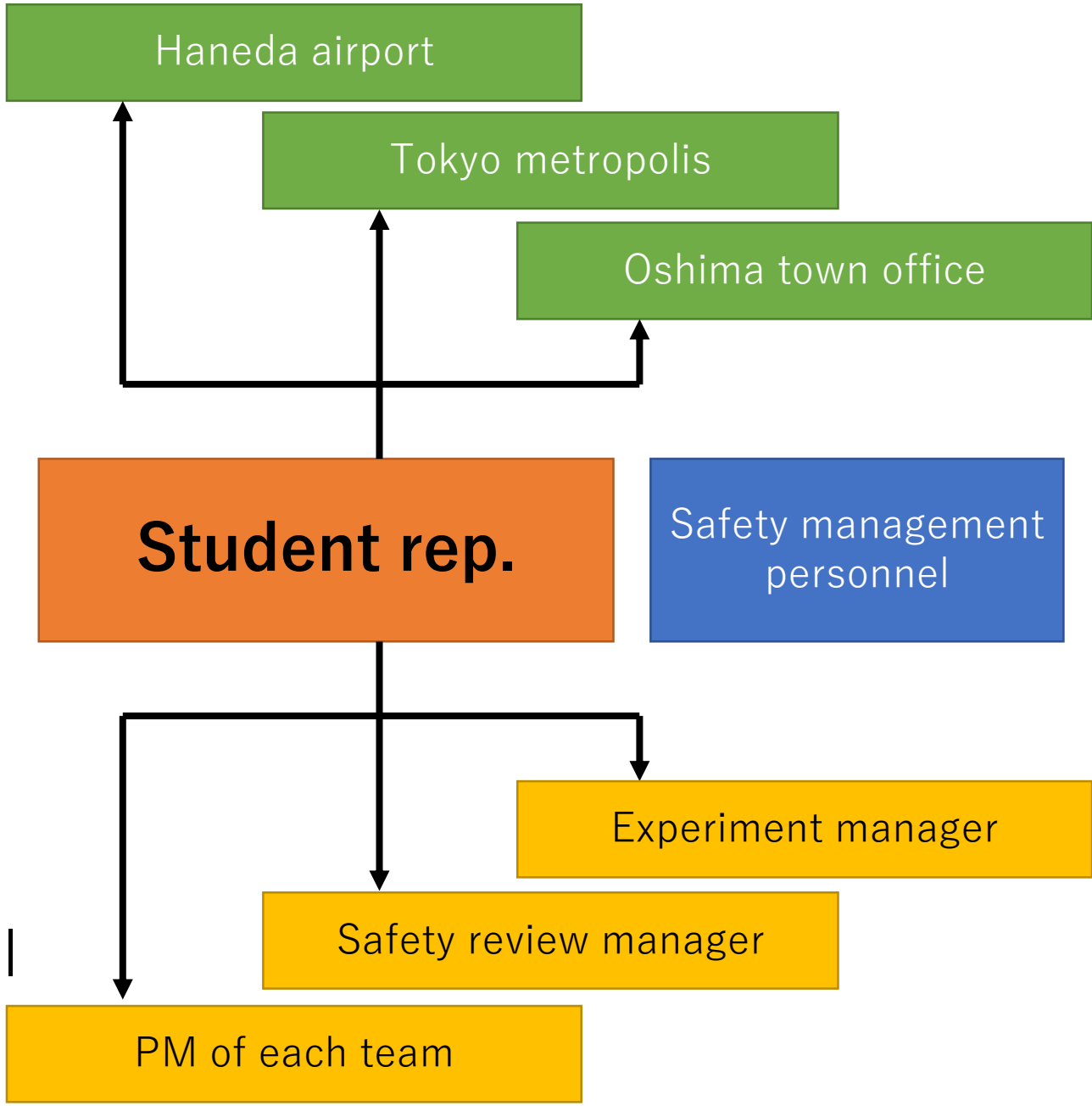
Oshima

- 90.76km^2, about 7600 people
- Famous for camellia & Mt Mihara
- The only desert in Japan


@chihiromasaki_2

Management team

- Three main role (student)
  - Representative
  - Experiment manager
  - Safety review manager
- Representative
  - Adjustment with the Oshima town office, airport, Tokyo metropolis
- Safety management personnel
  - From the university of the participating team



Schedule

Registration

- Correct the information about team by using Google foam

Kick off

- Hold kick off meeting and announce about the point of launch

Safety review

- Each team make document about safety of rocket launch and checked by management team

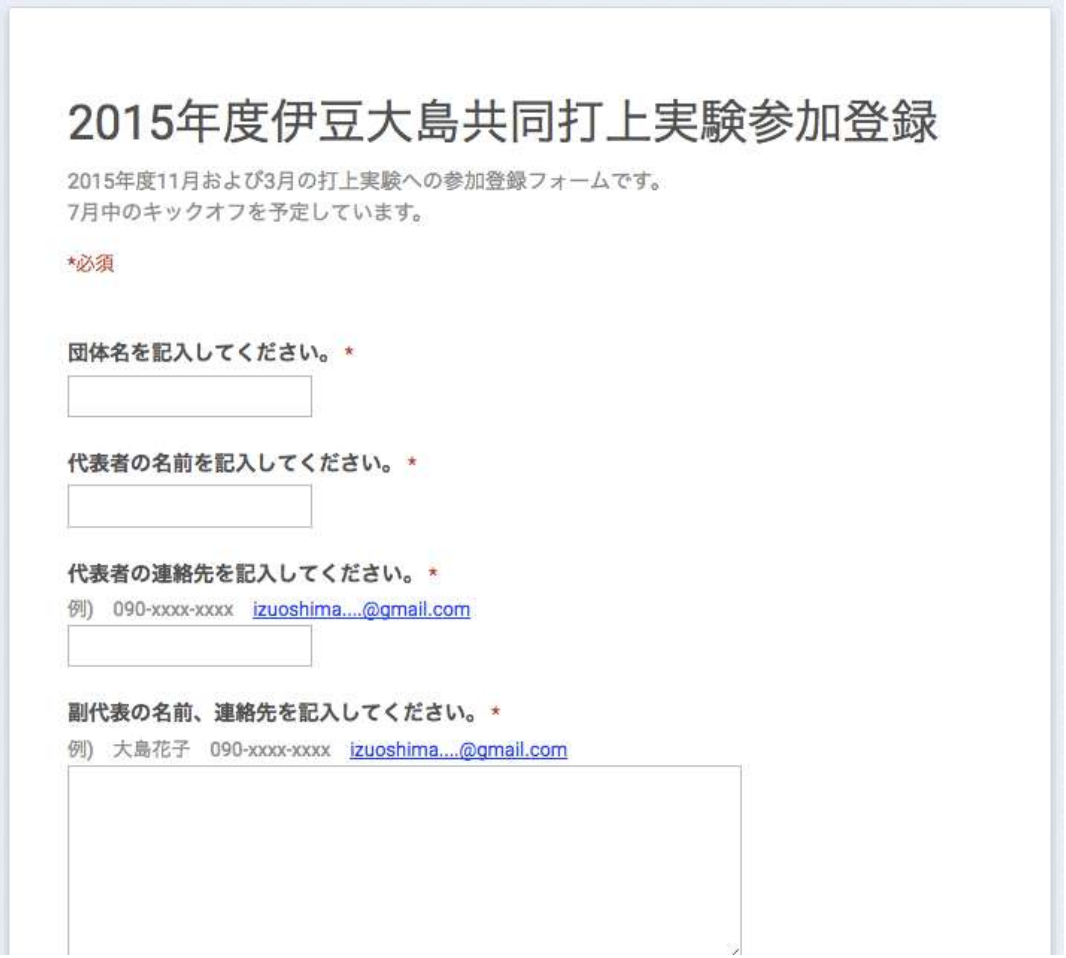
Launch

- Go to Oshima by ship
- Launch

Registration & Kick off

- 4mounth before the experiment, we start to correct information, because of the application

- Kick off meeting
  - ➢Announce about the point of safety review
  - ➢Behavior in the desert
  - ➢Check the schedule



2015年度伊豆大島共同打上実験参加登録

2015年度11月および3月の打上実験への参加登録フォームです。
7月中のキックオフを予定しています。

*必須

団体名を記入してください。 *

代表者の名前を記入してください。 *

代表者の連絡先を記入してください。 *

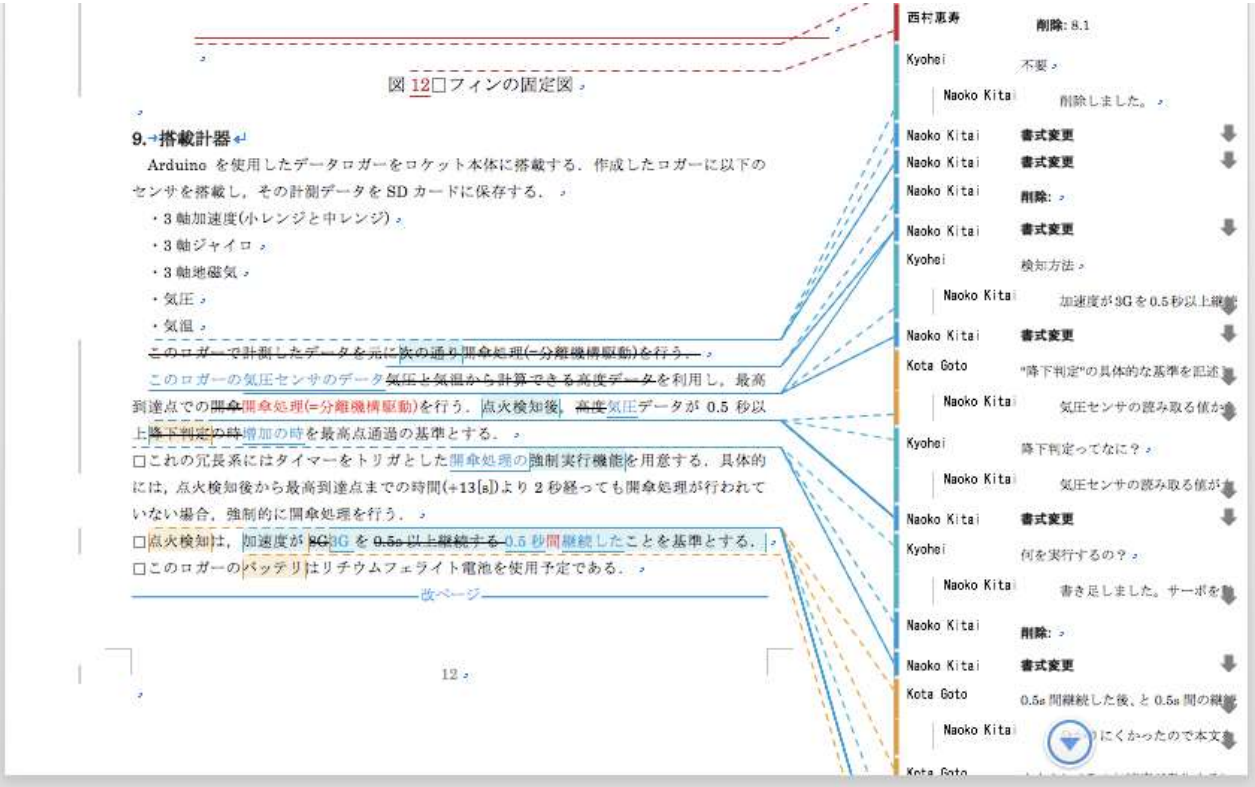
例) 090-xxxx-xxxx izuoshima....@gmail.com

副代表の名前、連絡先を記入してください。 *

例) 大島花子 090-xxxx-xxxx izuoshima....@gmail.com

Safety review

- From the kick off meeting to launch day, we perform two review
- Reviewer are the OB of each team
- Participating team write down the document, and reviewer team check each item(structure, propulsion system, recovery)



Application

- Haneda airport office
  - ➢To make launch window
  - ➢The fright path to Haneda airport are above oshima
  - ➢In Japan, in the case of launch more than 150m, we need to apply

- Tokyo metropolis
  - ➢98% of oshima land are environmental protection area

Launch

- Set up the launcher

- Final review
  - ➢Mainly check the center of gravity and size
  - ➢If the error of CG is larger than 10%, the rocket can’t launch

- Launch operation

Launch

Participation from other country

- South Korean team contact us to launch hybrid rocket in Noshiro

- Difference of law
  - Treatment of the high pressure gas and explosives

- To make it easy…
  - Make a checklist (or database ?) of difference of law
  - Early announcement and opening of registration

Summary

- Through the management, we learn about the adjustment with the stakeholder of our launch
- For global and more convenient launch, we should prepare
- Come to Japan and launch rocket

Thank you !!

Reference

https://kadaevent.space/experiment/outline/
http://gojinka100.blog27.fc2.com/blog-date-20110707.html