

Kyutech and Capacity Building

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The BIRDS Project delivers the technical competence to build satellites inside of your own country

BIRDS-I (2015-2017)

JAPAN



GHANA



MONGOLIA



NIGERIA



BANGLADESH



THAILAND



TAIWAN



This is our track record with BIRDS satellites

BIRDS-II (2016-2018)

BHUTAN



MALAYSIA



PHILIPPINES



BIRDS-III (2017-2019)

JAPAN



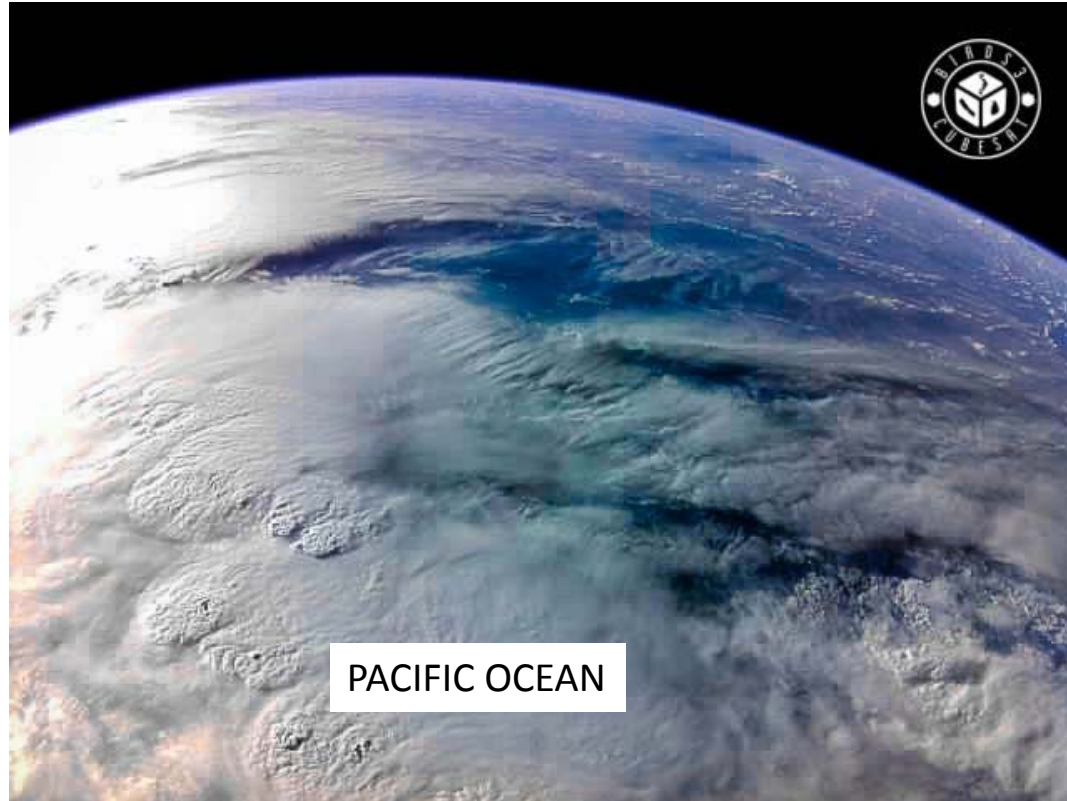
SRI LANKA



NEPAL



BIRDS-3 Image Gallery



PACIFIC OCEAN

It is the first photo taken by BIRDS-3 satellite.



Island of Sri Lanka

Each image takes about 2-3 days to downlink completely



BIRDS-4 is currently underway

Countries:

- ◆ **Japan**
- ◆ **Philippines**
- ◆ **Paraguay**

Flight models shall be delivered to JAXA in Dec.2019.

Kyutech is now recruiting for
BIRDS-5 Project,
which starts April of 2020

This is the essence: Learn the *entire* satellite development process from start to finish

Flight Model

Deploy in space

Engineering Model

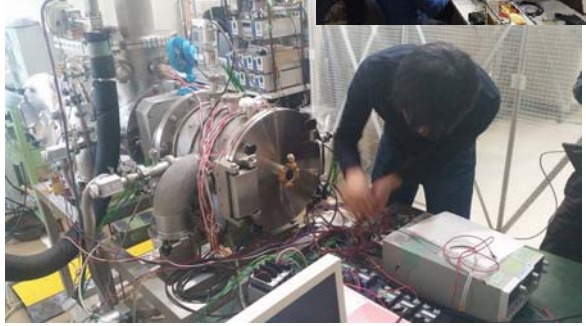
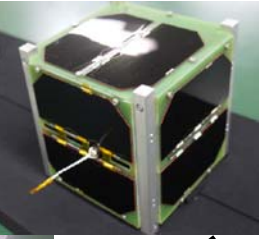
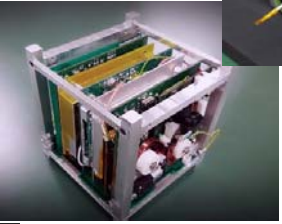
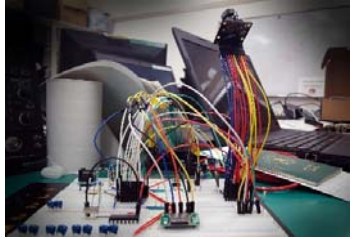
End

Breadboard

Design

Start

Extensive environmental testing



**One BIRDS Project
from start to finish is
exactly 24 months.**

Projects overlap by one year

BIRDS-1 (duration of 2 years)



Finished

BIRDS-2 (duration of 2 years)



Still in orbit

**Deployed on
17 June 2019**

BIRDS-3 (duration of 2 years)



Now being developed

BIRDS-4 (duration of 2 years)



Kyutech is the **No. 1
university in the world
in one amazing respect**



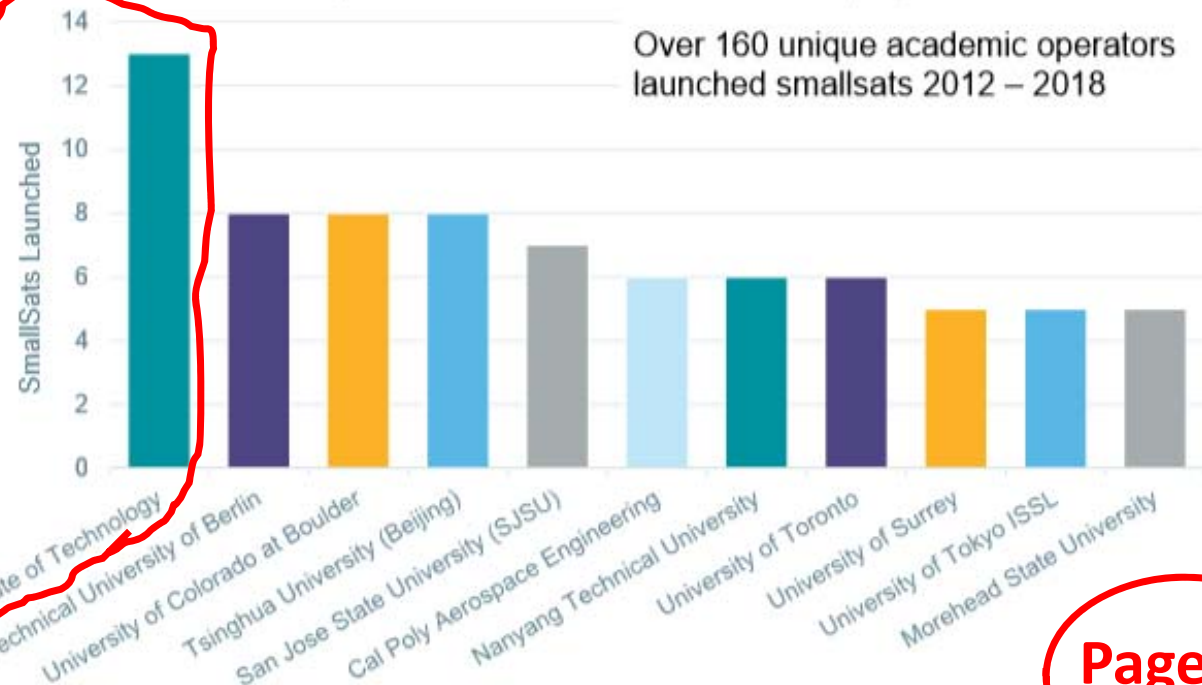
[https://brycetek.com/downloads/Bryce Smallsats 2019.pdf](https://brycetek.com/downloads/Bryce_Smallsats_2019.pdf)

This shows 13 satellites but since this was published we have launched 5 more ...
... our grand total now stands at 18 satellites

Academic and Non-Profit Smallsats Top Academic Smallsat Operators, 2012 - 2018



Academic Operators with 5+ Smallsats Deployed



Over 160 unique academic operators launched smallsats 2012 - 2018

Smallsats by the Numbers 2019 | Bryce Space and Technology | DC Metro Chicago London

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**The 18
satellites
that we
have
launched
so far**

| Kyutech Satellite History | | | | |
|---------------------------|------------------------|------------------------------------------|-----------------------|------------------------------|
| G.Maeda, 13 June 2019 | | | | |
| No. | Satellite name | (a) Date of Launch (b) ISS deployment | Nations involved | Note |
| 1 | HORYU-II | (a) 2012/5/18 | Japan | |
| 2 | Shinen-2 | (a) 2014/12/03 | Japan | |
| 3 | HORYU-IV | (a) 2016/02/17 | Japan | |
| 4 | AOBA VELOX-III | (a) 2017/01/19 | Japan and Singapore | |
| 5 | BIRDS-I : Ghana | (b) 2017/07/07 | Japan and Ghana | Ghana's first satellite |
| 6 | BIRDS-I : Mongolia | (b) 2017/07/07 | Japan and Mongolia | Mongolia's first satellite |
| 7 | BIRDS-I : Nigeria | (b) 2017/07/07 | Japan and Nigeria | |
| 8 | BIRDS-I : Bangladesh | (b) 2017/07/07 | Japan and Bangladesh | Bangladesh's first satellite |
| 9 | BIRDS-I : Japan | (b) 2017/07/07 | Japan | |
| 10 | BIRDS-II : Philippines | (b) 2018/08/10 | Japan and Philippines | |
| 11 | BIRDS-II : Malaysia | (b) 2018/08/10 | Japan and Malaysia | |
| 12 | BIRDS-II : Bhutan | (b) 2018/08/10 | Japan and Bhutan | Bhutan's first satellite |
| 13 | SPATIUM-I | (b) 2018/10/06 | Japan and Singapore | |
| 14 | Ten-koh | (a) 2018/10/29 | Japan | |
| 15 | AOBA VELOX-IV | (a) 2019/01/18 | Japan and Singapore | |
| 16 | BIRDS-III : Nepal | (b) 2019/06/17 | Japan and Nepal | Nepal's first satellite |
| 17 | BIRDS-III : Japan | (b) 2019/06/17 | Japan | |
| 18 | BIRDS-III : Sri Lanka | (b) 2019/06/17 | Japan and Sri Lanka | Sri Lanka's first satellite |



**Finally, a
word about
pursuing a**

Masters Degree or Phd at Kyutech



Space **E**ngineering **I**nternational **C**ourse

**After this talk,
see me for a
SEIC brochure**

- Taught in English
- You must have a bachelor's degree in some field of engineering
- Masters degree in two years
- Phd in three years
- SEIC has between 45 and 60 students at any given time, mostly foreigners
- You will learn a lot about space engineering through *hands-on training*



Post-graduate study on **N**ano- **S**atellite **T**echnologies

**After this talk, see me
for a PNST brochure**

**If accepted, you are
placed into SEIC**

- **PNST, since 2013, a full scholarship**
- **Jointly administered by the UN and Kyutech**
- **Six persons selected each year, 3 Masters and 3 Phd**
- **Applications accepted during September thru January**
- **Apply through the website given below**
- **You must be from a non-space-faring nation**

PNST website: <http://www.unoosa.org/oosa/en/ourwork/psa/bsti/fellowships.html>

Thank you for your attention from the BIRDS Family



BIRDS -1 -2 -3 and -4