



# MGA Activity Report

Satoshi Kogure, MGA Co-chair

November 4, 2018

21th Providers' Forum, Xi'an China



## 2018

- **Supporting capacity building on GNSS utilization for Asia Pacific region;**
  - **MGA Webinar** (Webinar information is located at <https://gnss.peatix.com>)
  - **International Summer School on GNSS**
- **Multi-GNSS Asia (MGA) 10<sup>th</sup> anniversary conference in Melbourne, Australia**

# MGA activities 2018-2019



## MGA Webinar

MGA WEBINAR # 1 on 25th May, Friday, 18:00 – 19:00 (JST)

Webinar Topic: Very Cheap RTK Receiver: Changing the Landscapes of Positioning Services

MGA Webinar # 2 on 1st June, Friday, 18:00 – 19:00 (JST)

Webinar Topic: How to Use Free RTK Software ? (Part 1)

MGA Webinar # 3 on 8th June, Friday, 18:00 – 19:00 (JST)

Webinar Topic: How to Use Free RTK Software ? (Part 2)

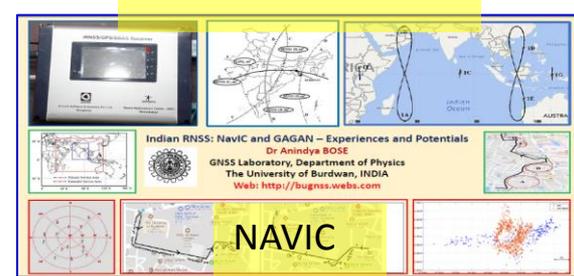
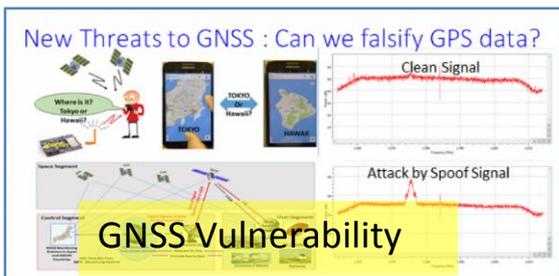
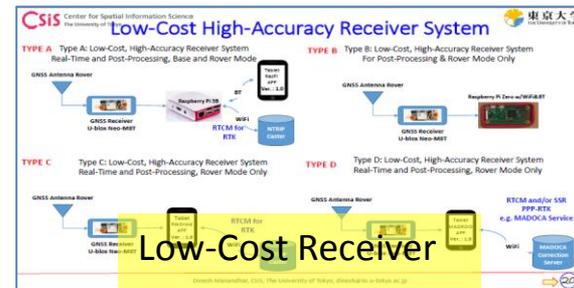
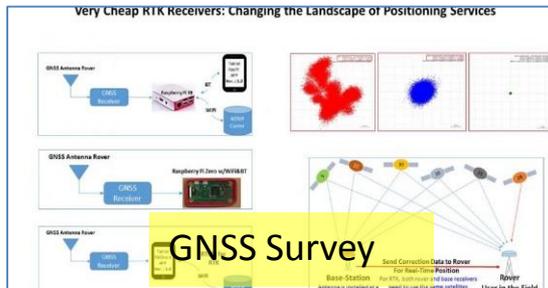
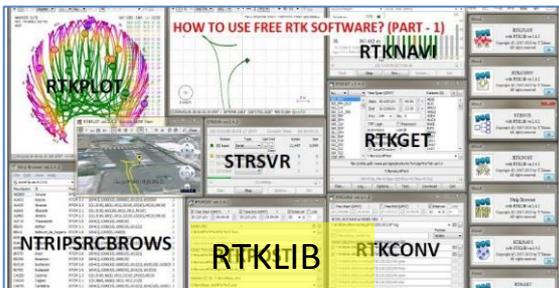
MGA Webinar # 4 on 15th June, Friday, 18:00 – 19:00 (JST)

Webinar Topic: Autonomous Driving: Requirements to Positioning Services

MGA Webinar # 5 on 22nd June, Friday, 18:00 – 19:00 (JST)

Webinar Topic: New Threats to GNSS : Can we falsify GPS signal?

# MGA Promotes GNSS Technology by conducting Webinars, Lectures, Projects etc.



**Upcoming Webinars:** (1) RTK from Android GNSS Raw Data (2) Early Warning System (3) GNSS Signal Authentication (4) PNT from Micro/Cube Satellites and many more.....

**Webinar Registration :** <http://gnss.peatix.com>

Past Webinar Reference: <https://home.csis.u-tokyo.ac.jp/~dinesh/WEBINAR.htm>

**We need YOU as a Resource Person. Please contact us....**



## International Summer School on GNSS

Date : 30th July - 4th August, 2018

29th July – 3rd August, 2019 (TBC)

Place : Tokyo University of Marine Science and Technology(TUMSAT), Japan

Organized by : Tokyo University of Marine Science and Technology(TUMSAT), Japan  
and The Institute of Positioning, Navigation and Timing of Japan

Attendees : Japanese and foreign students with post graduate level & young engineers and instructors who are teaching GNSS in their own countries.

Number of participants : 40 (Up to 20 will be invited with the travel expenses and tuition)

Language : English

Sponsor : Japan Science and Technology Agency (JST)

Supported by : MGA(Multi-GNSS Asia), GESTISS (Geospatial and Space Technology Consortium for Innovative Social Service)

# International Summer School on GNSS



# Participants in 2013-2018

Country	2013	14	15	16	17-18
Pakistan	0	5	2	3	2 1
Taiwan	6	3	5	4	6 4
Thailand	4	2	2	3	4 1
Philippines	2	2	2	4	2 2
Nepal	1	0	0	1	1 1
Mongol	0	2	1	1	1 1
China	0	3	2	1	1 7
Indonesia	2	2	2	4	2 2
Sri Lanka	1	0	1	1	1 2
Kenya				1	
Czech			1		

Country	2013	14	15	16	17-18
Brunei				1	2 0
Malaysia	0	1	1	1	2 0
Myanmar					1 1
India			1	1	1 1
Mozambique					1 1
Singapore					1 1
Nigeria				1	
Korea					1
Turkey					1
Japan	20	17	15	14	16 12*
Total	40	39	39	41	44 39



## 2018 Participants

19 of them are invited selected from over 100 applicants for the scholarship.

\*Include 2 foreign students studying in Japan.

# MGA activities 2018-2019



## Multi-GNSS ASIA (MGA) 10<sup>th</sup> anniversary conference in Melbourne, Australia

Date : 23<sup>rd</sup> - 25<sup>th</sup> Oct 2018

Venue : RMIT(Royal Melbourne Institute of Technology)

LOC : Dr. Suelynn Choy (Chair), Ms. Stephanie Pradier, Dr. Salim Masoumi



FRONTIER S I >



GNSS.asia

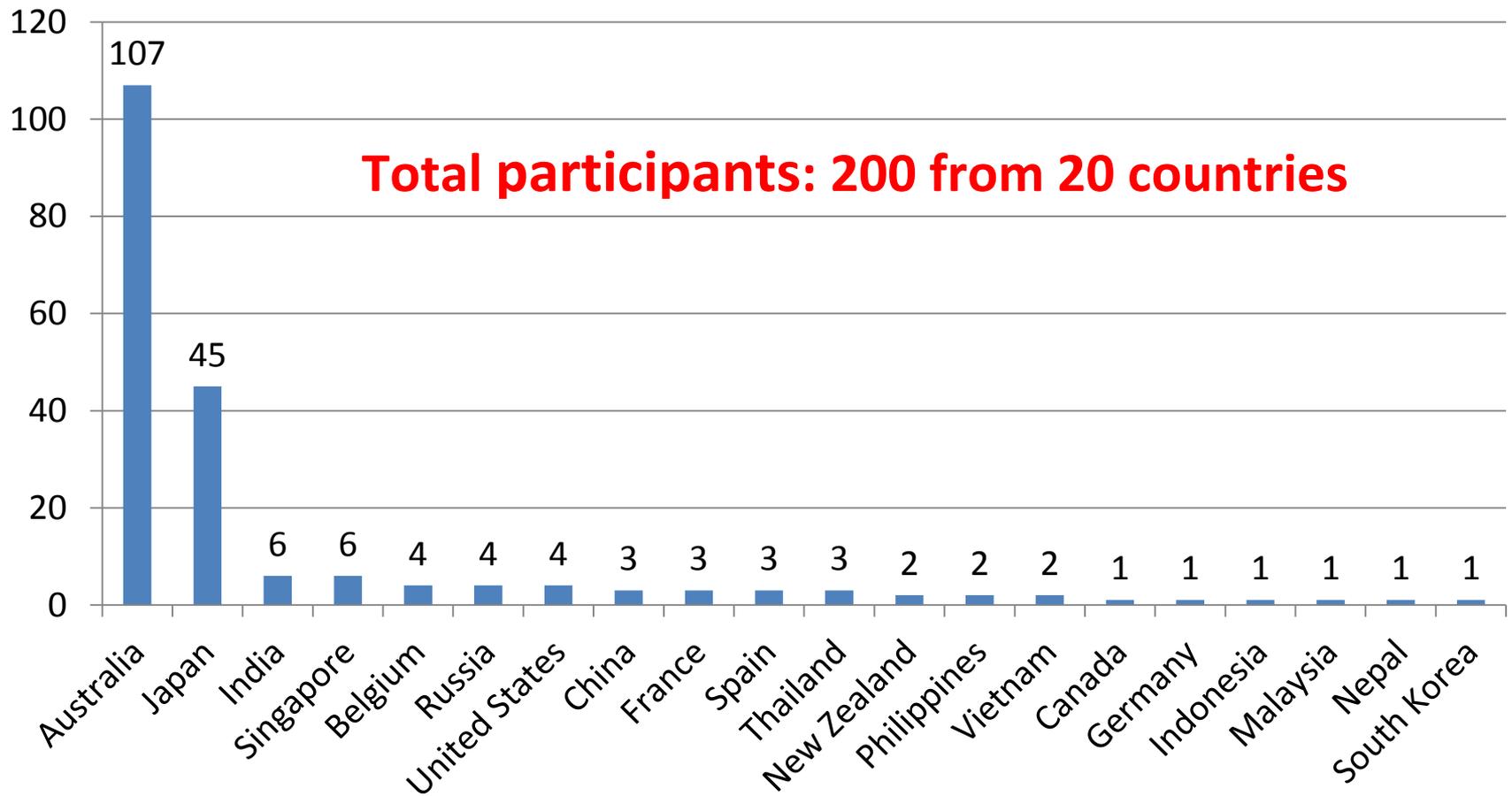


# 10<sup>th</sup> MGA conference 2018





## Participants by Countries

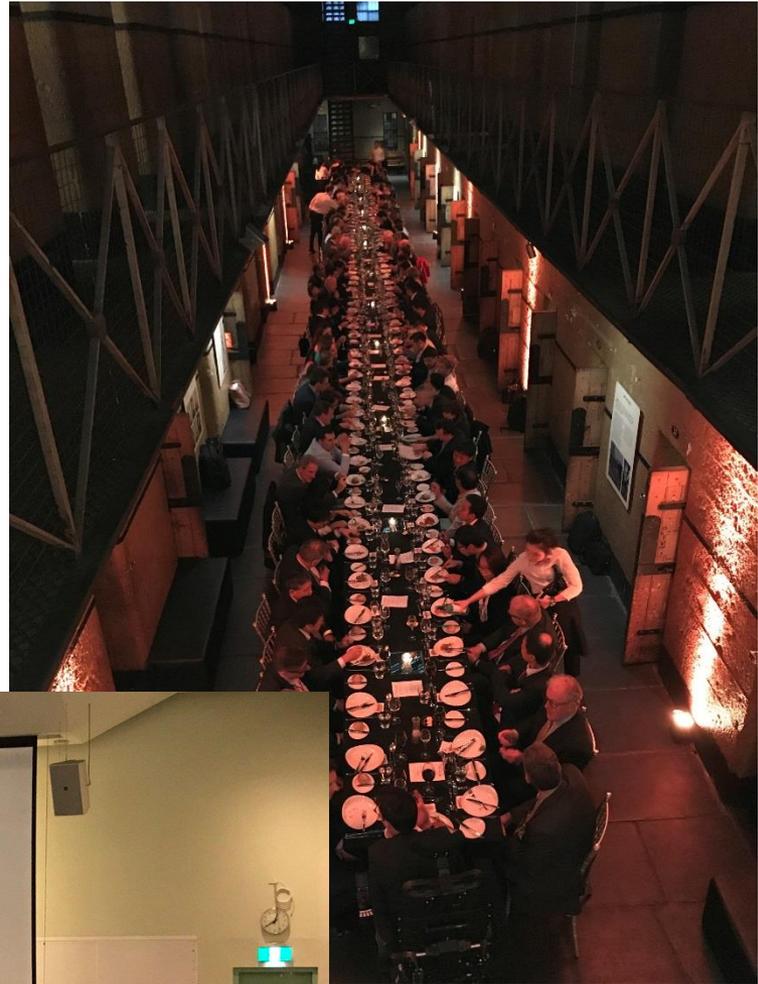
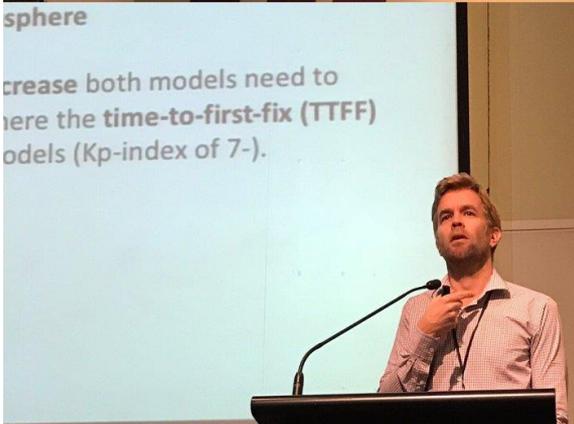


# Hot and Major Topics from the conference program

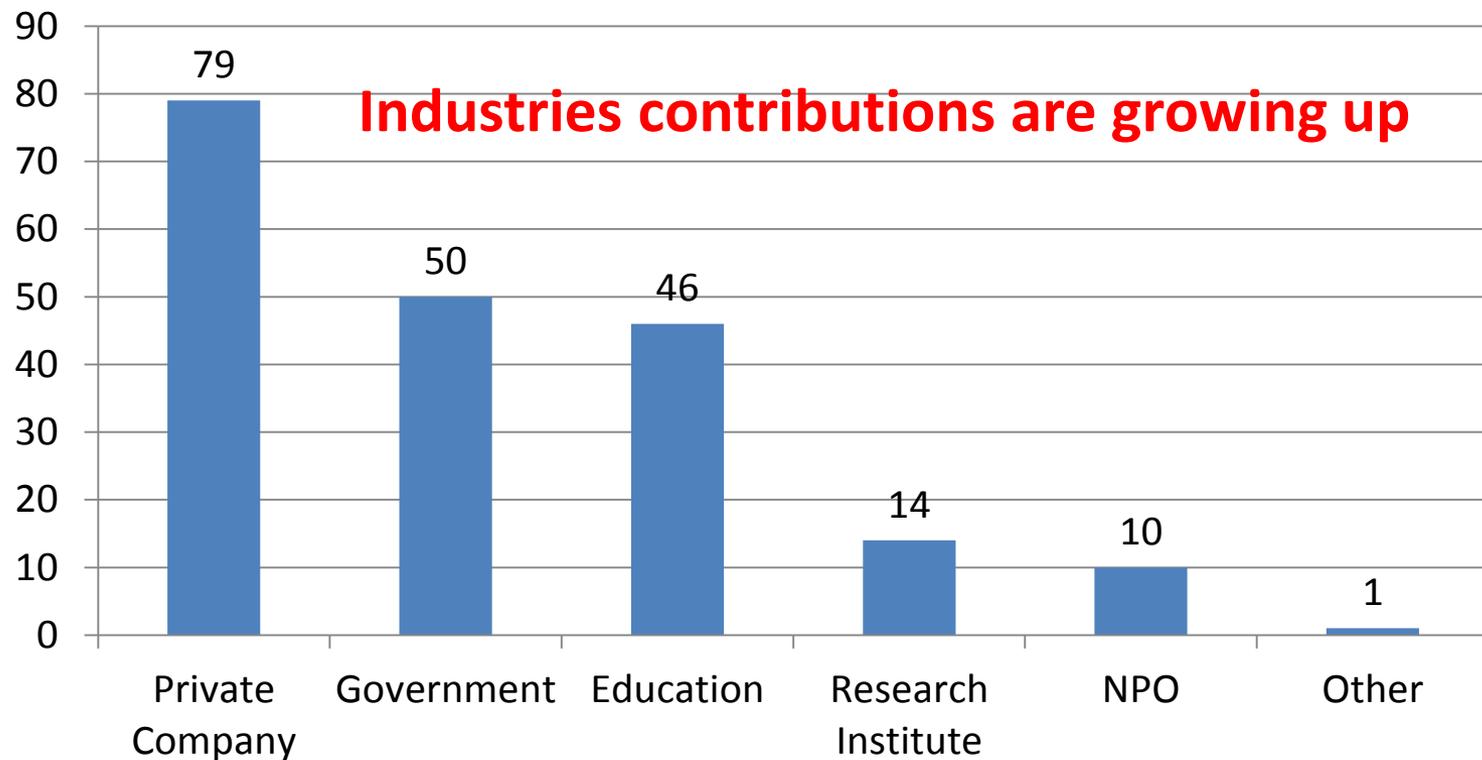


- Australian space agency and initiative on GNSS, AU SBAS
- Latest updates of all GNSSs and RNSSs
- ITS panel discussion
- Early Warning Service via GNSS
- Application with Smartphone raw measurement
- Young Professional & Student Forum, Rapid prototype development (RPD) challenge





- Registered Participants by Sectors



# Special Thanks to sponsors

## DIAMOND



## Young Professional and Student Forum



## GOLD



## SILVER



## COFEE



# MGA 2018 & (YP/S) Young Professional & Student Forum



- YP/S : Forum for interaction between the students, researchers and professionals
  - A networking event between the YP/S Forum participants and industry representatives were held



- ICG provided Travel Funding to SIX Participants from Asia to attend MGA 2018 in Melbourne
  - India (2), The Philippines (2), Thailand (1), Vietnam (1)

# RPD (Rapid Prototype Development) Challenge



- RPD Challenge Topics during MGA 2018

- PPP from GNSS Dual Frequency Smart-Phone Raw Data
- GNSS for Rowing Speed Measurement
- Low-Cost GNSS for Smart-Agriculture
- Driver's Behavior Index (DBI) Development from GNSS Data
- Interference Monitoring



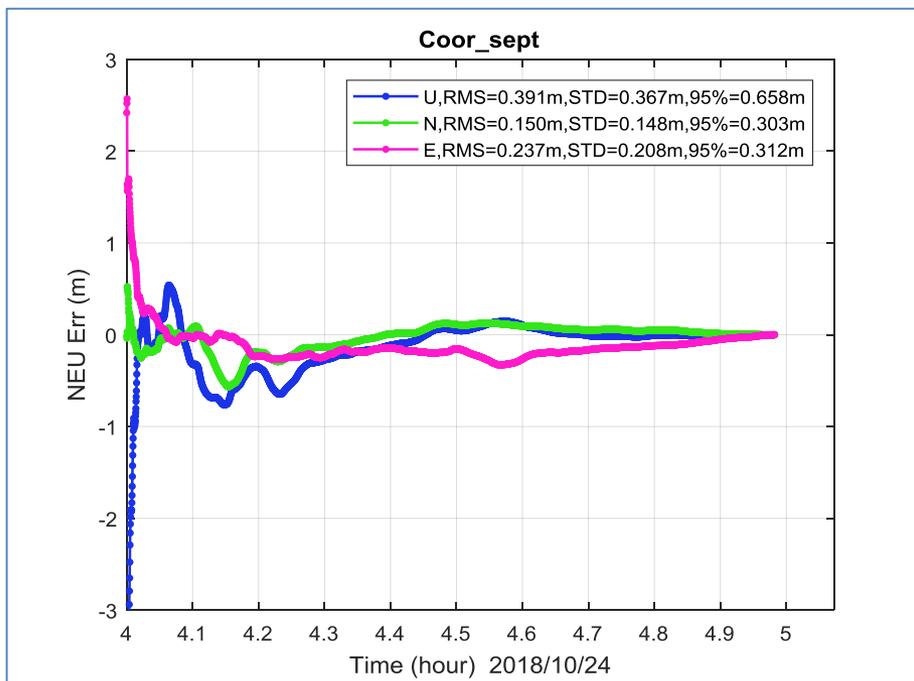
- All ICG funded participants participated the RPD Challenge
- Follow-Up Discussions will take place even after MGA through online meetings

**[Details of MGA Webinar, YP/S Forum and RPD Challenge will be presented by Dr. Dinesh Manandhar in WG-C Meeting](#)**

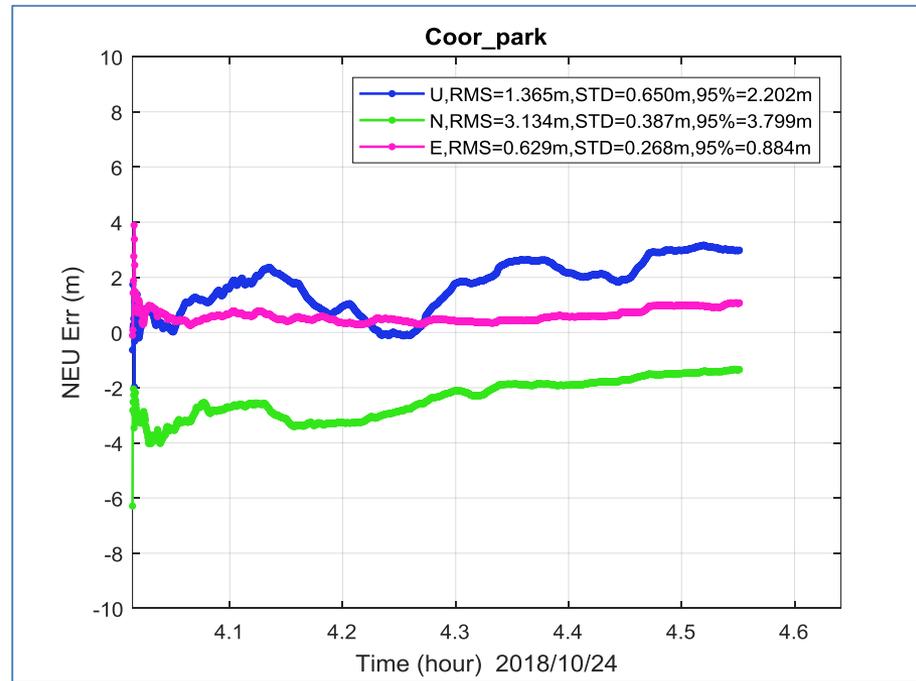


# RPD Challenge: Xiaomi Mi8 vs. SEPTENTRIO PPP Results

## SEPTENTRIO



## Xiaomi Mi8



These are just a very quick comparison between multi-frequency, multi-GNSS receiver (Septentrio) vs. Dual-frequency (L1/L5) GNSS receiver of Xiaomi Mi8 smart-phone device. These results do not reflect the actual performance capabilities of Septentrio receiver. Actual performance will be better than these results with proper antenna setting.

# MGA Priorities 2018 / 2019



- Strengthen user community towards an “Open Innovation Hub”
- Align more closely with ICG
  - Support regional implementation
  - Focus on certain themes, e.g. WGS
- Transition of Secretariat responsibilities
- Stronger role of local partners in conferences
- Annual conferences more theme-based
- Gradual evolution of membership structure

EWS

Capacity Building for  
developing countries

Done  
From JAXA to IPNTJ

Done  
Excellent work by AU LoC

On Going discussion in the Steering Committee in the planning 2019



## 2019

- **Multi-GNSS Asia (MGA) 11<sup>th</sup> conference**
  - Encouraging start-up in Asia Pacific region
  - To be co-organized with start-up events
- **Webinar and Summer school**
- **Some projects**
  - Demonstrations, Young professional Forum Prototyping, Competitions
  - Mini workshops.....



**Multi GNSS Asia**

# BANGKOK

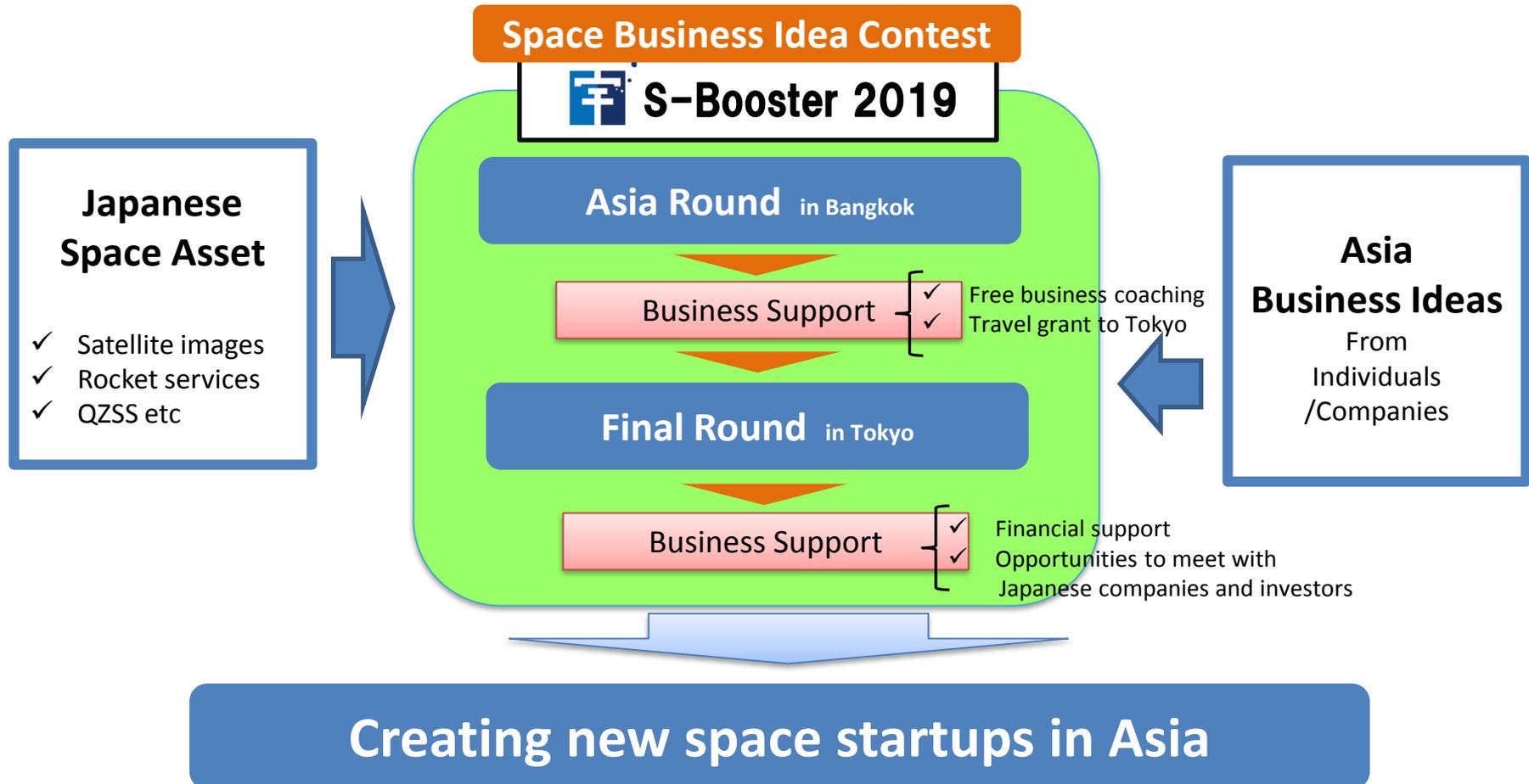
Inspiring Futures

Standing Out in Competitive world

**May 2019**

# Creating New Space Startups in Asia

- The NSPS with JAXA will launch a space business idea contest, **“S-Booster” in Asia.**
- We will invite a lot of space business ideas from **Asia and Oceania regions.**
- **Creating new space startups in Asia** by supporting the commercialization of each idea in collaboration with Japanese industries.





# Let's expand the partnership

