2015 - A Giant Leap for Thailand in Human Space Technology

UN/Costa Rica Workshop on Human Space Technology

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Pre 2015 - Thailand Space Segment at a Glance

Exploration ???
Human Space Technology ???
Space Industry ???

Space Law – Ministry of Foreign Affairs
Policy and Strategy - National Space Committee
Earth Observation - GISTDA
Space Science and Education – KMUTNB, Mahanakorn University, Mahidol University
Space Communication – Ministry of ICT
Defense – Ministry of Defense, Defense Technology Institute
Thailand Space Development

Thailand has received and stored earth observation data for more than 30 years.

National Space Committee met and National Space Agency proposed.

Establishment of National Space Committee

The National Space Committee was established in 2009.

2014

Established the first Ground station in ASEAN in 1982.

Thailand joined the NASA ERTS-1 Project back in 1971. It was the first space related Project in Thailand.

Indigenous capability

Thailand aims to be self sustainable in aerospace technology development on a small scale by 2020.

NSC

Thailand has received and stored earth observation data for more than 30 years.
The National Space Committee

- Head by Prime Minister of Thailand.
- Committee members include Deputy Prime Ministers, 8 ministers and several experts in the field of Space
- Established in 2009 but inactive until 2014
- Several meetings in 2014 and 2015 in order to establish Thailand position in Space Technology
- Establish itself as a center for Space domain strategy planner and defragmented the space segment in Thailand
The National Space Program was authorized by the National Space Committee.

20 year Plan established from 2015 to 2034

Emphasis on:
- Capability to develop space technology
- International Space Science Collaboration
- Unmanned Space exploration
- Manned Space Program
Initial steps in Human Space Technology

Create Investment in Space Technology

Partner with other agencies to create opportunities for Micro-Gravity Experiments

Create Innovation from within

Indigenously

Generate Interest in Space Exploration

Establishment of Thai Space Industry

Create Micro-Gravity experiments in Thailand

2017

Invite Experts to give insights of Space Environment

2018

Training

Build Innovation Driven Enterprises

Indigenous Efforts

2016

Generate Values from Space to the people

Create Value From Space

Partner with national and regional bodies

Training

International collaboration

Micro-gravity Experiment Ideas

Training

Call for Projects

for the THIRD CYCLE OF DROP TOWER EXPERIMENT SERIES

Create Investment in Space

Generate Values from Space to the people
UN-ZGIP – Clinostat

- Thailand received 1 clinostat from UNOOSA in 2013

- The instruments were both used for internal experiments as well as an education tool

- Students are encouraged to participate in the experiments

- International schools in Thailand has included micro-gravity experiments using clinostat as part of their biology curriculum

- Currently exploring opportunities for Drop Test Experiments as well as cubesat development
Thank you for your attention
THASA Space Contest 2015

- Contest for Thai youth to propose experiments to be conducted in space environment and partial micro-gravity
- Over 80 applications (project) submitted

- The top 10 teams were provided with weather balloon service to lift their experiments to 30km above surface of the earth

- The contest was also televised on national television over a period of 3 months through 10 episodes
Asian Try Zero-G

- Collaboration with JAXA to conduct micro-gravity experiments
  - On-board Zero-G aircraft
  - On KIBO module of the ISS (KIBO-ABC)

- GISTDA and NSTDA invites students and participants from all over Thailand to propose their experiments

- Selected experiments are performed by Japanese Astronauts on board the ISS
The Space Inspirium

- The Space Inspirium is the first Space Museum in Thailand
  - Aims to inspire the next generation with space technology

- Over 50,000 visitors since its opening in January 2016

- Exhibit includes space exploration timeline, photo with astronauts, 3D movie, Augment reality section

- The Space Inspirium has generated vast interest in human space technology in Thailand
Industry development: Aerospace as a future industry

- Thailand propose 5 Future Industry to drive up its GDP
  - Aerospace is one of the 5 future industry
  - The industries shall receive support from the government

- Special Incentives for investment in Aerospace
  - No personal income tax of experts for 5 years
  - 8 years reduced company tax
  - 300% tax rebate on R&D Spending
Next big thing - National Space Capability Development – THEOS 2

- THEOS 2 program is the next Earth Observation Program
  - Approved in principle by the cabinet of Ministers
  - Larger Scale Earth Observation Satellite built by prime contractor
  - Small Earth Observation satellite to be built in Thailand
  - Development of local industry in Aerospace Sector
Conclusion

- Thailand is currently in the early development stage of space technology and micro-gravity research

- Activities/Projects must be kept continuous in order to have larger impact
  - Some outreach project fizzle out early

- Cooperation with developed nations are needed
  - Opportunities such as experiments on board ISS, etc.
  - Exhibits for creating inspirations
  - Visits from Experts and Astronauts to create generate interests

- Cooperation with other developing space nations
  - Working together on project to share resources
  - Concentration on developing technological capacity
Thank you

Questions? Suggestions? Recommendations?
Axe Apollo Program and the first Thai Space traveler

- Axe conducted a contest and awarded the winner with sub-orbital flight
- 23 winners from around the world were selected and the award was given by Buzz Aldrin
- Ms. Pirada Techavijit, a Thai National and employee of the Ministry of Science and Technology was one of the winner and is poised to be the first Thai in Space