



The 28th Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-28)
Space Education for All Working Group (SE4AWG)



INTERNATIONAL AND DOMESTIC SPACE RELATED PROGRAMS IN MONGOLIAN HIGHER EDUCATION

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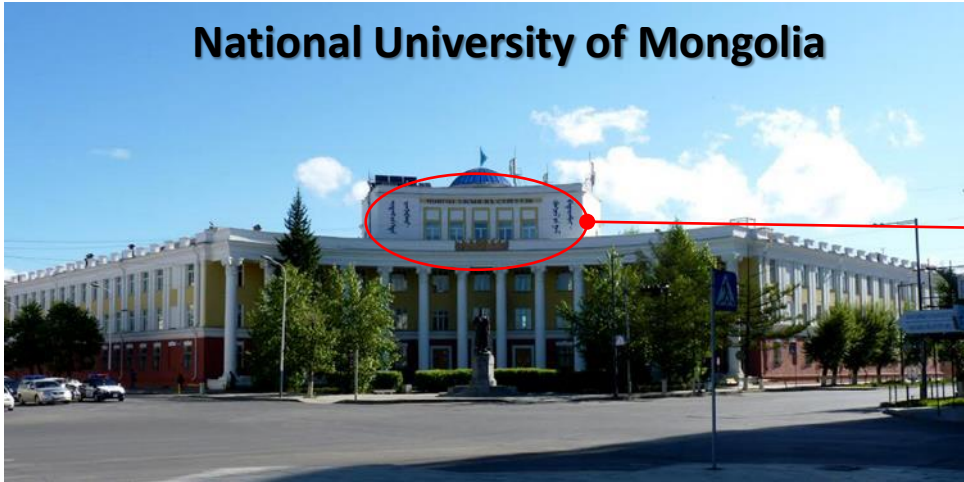
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- Country's Plan
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- Cubesat projects - First and Second
- Other activities

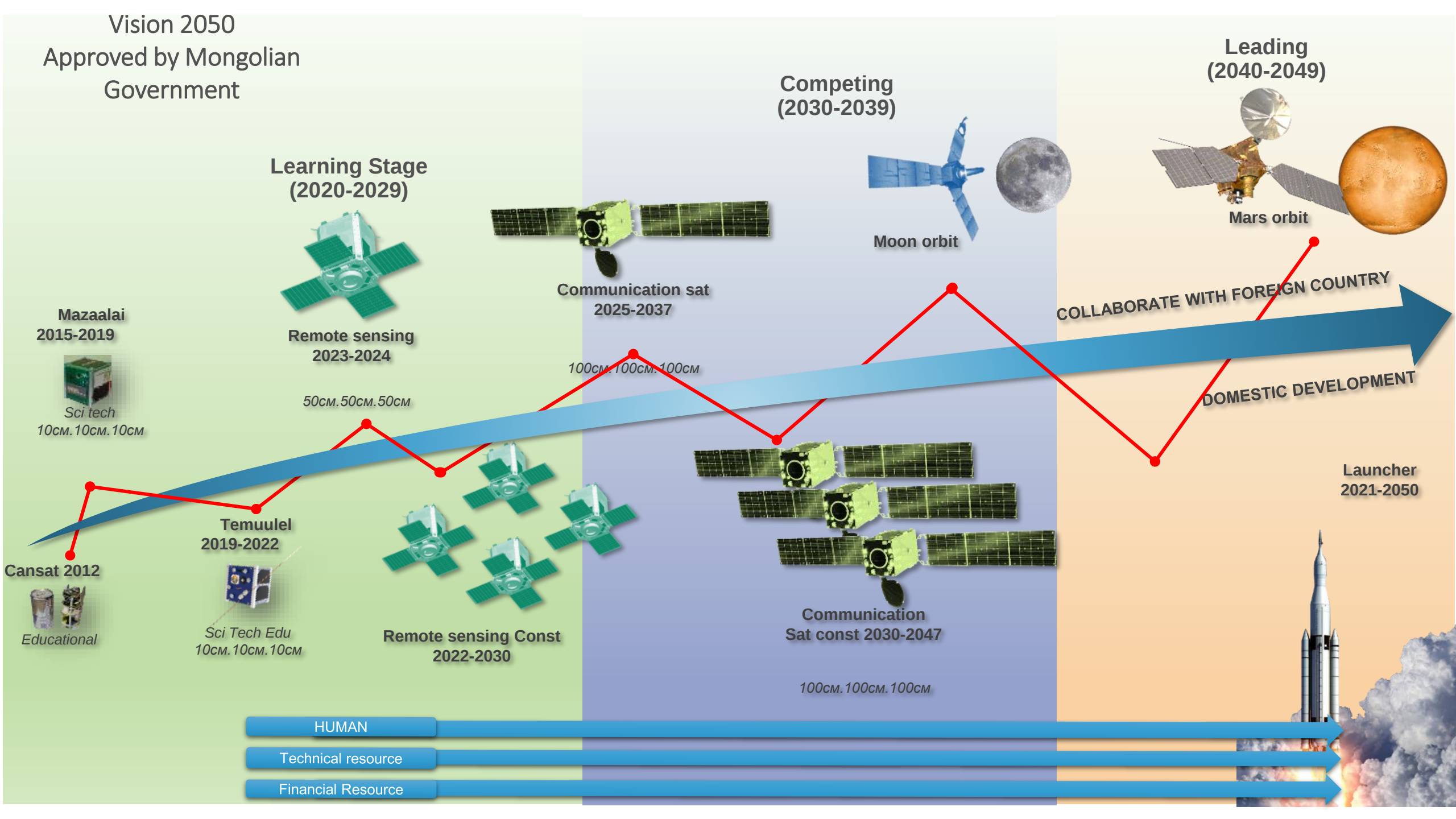
Beginning of Space Technology Education in Mongolia

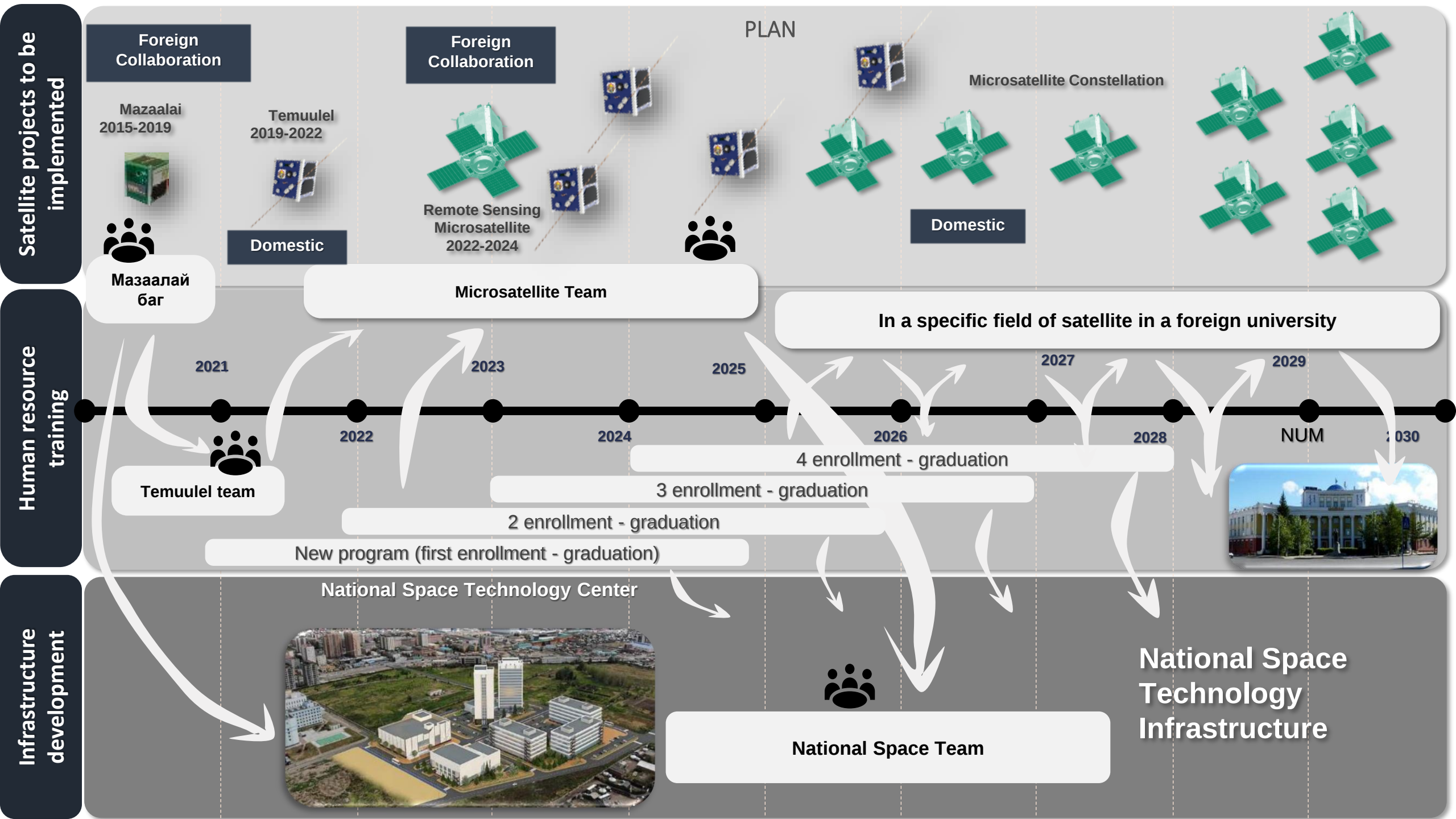
- National Satellite Space Program approved by Mongolian government in 2012.
 - One of the objectives was to prepare human resource for space development in Mongolia.
 - In this framework, The Nano Satellite Development laboratory was established in 2013
- The Nano Satellite Development laboratory is the only Space Technology Lab in Mongolia



- ## Laboratory of Nano Satellite Development

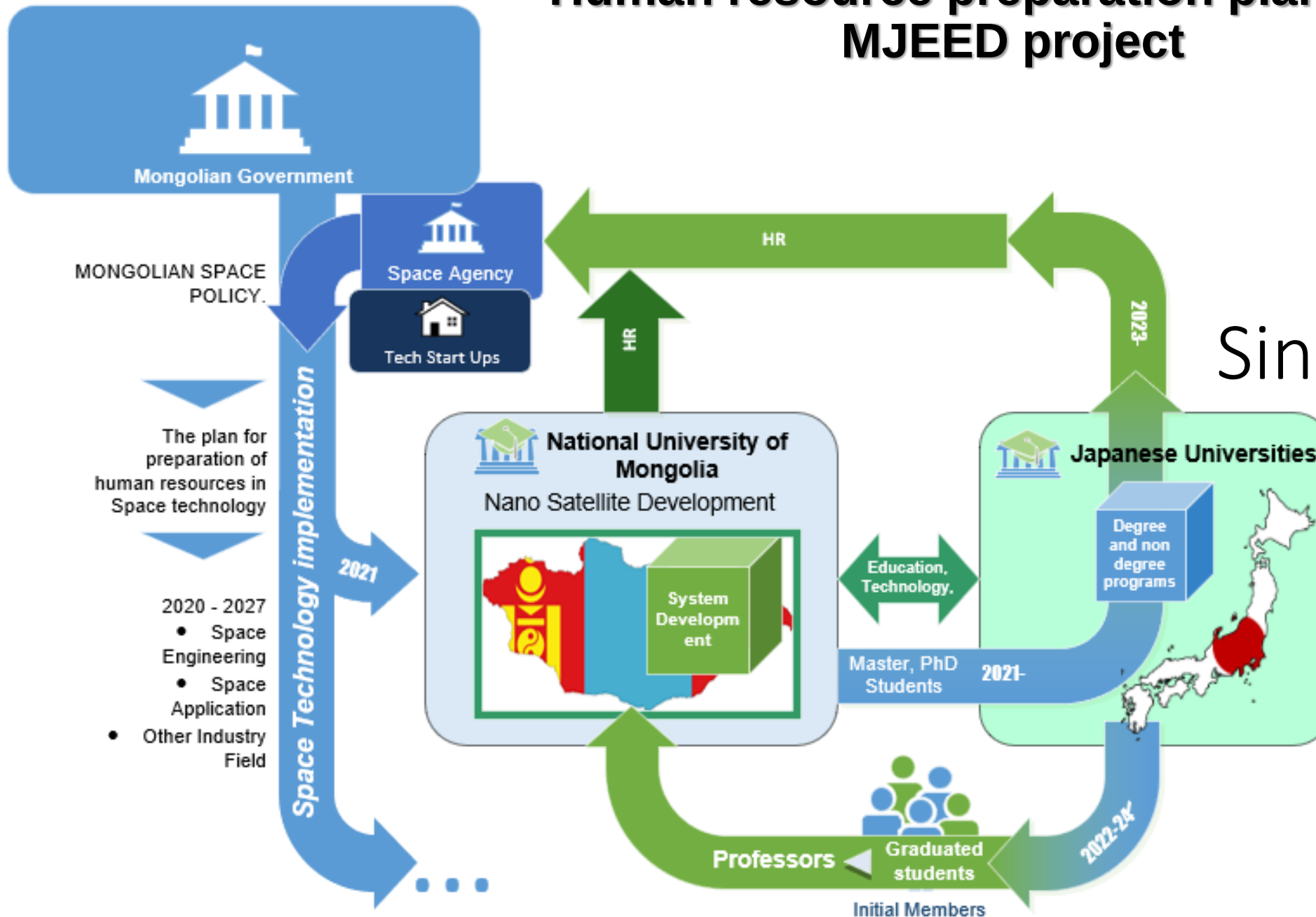
Vision 2050
Approved by Mongolian
Government



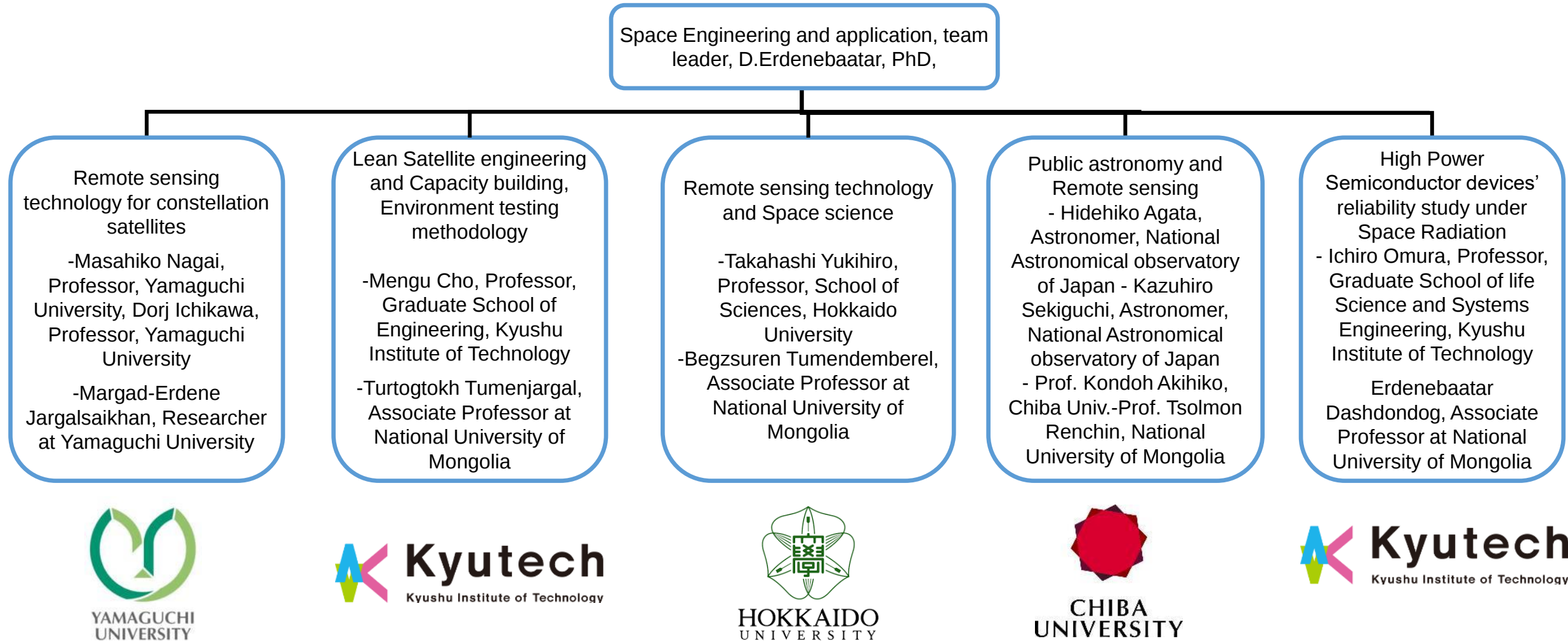


Human resource preparation plan under MJEEED project

Since 2014...



Human and research collaboration with Japanese Universities



MJEED project is joint research project on Space engineering and application

BIRDS-1 CubeSats
released from the ISS,
KIBO arm of the JAXA,
July 7th, 2017



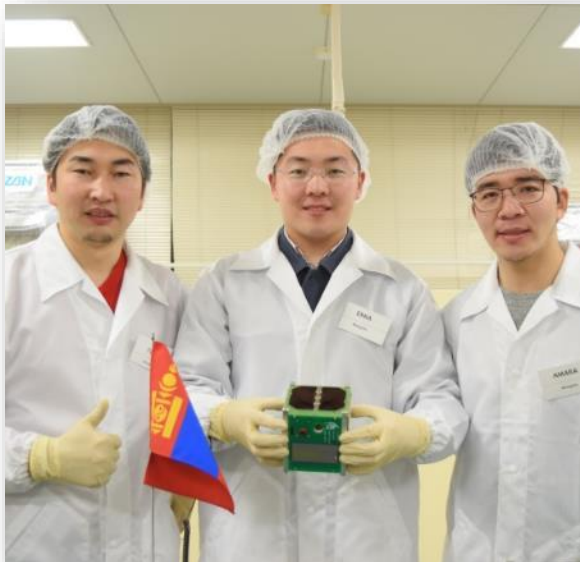
Jack Fischer  @Astro2fish · 07 Jul
Another great example of International
Cooperation today on @Space_Station --
launched 5 micro-satellites from 5
countries off the JAXA arm!

About First Satellite



Joint **Global Multi-Nation Birds**
(JGMNB), a satellite program for
non-space fairing countries.

Shortly called “**BIRDS** project”



Brief information about “Mazaalai” satellite 1U cubesat...



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Secretariat

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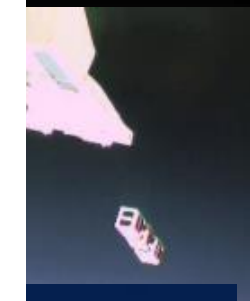
Committee on the Peaceful Uses of Outer Space

Information furnished in conformity with the Convention on Registration of Objects Launched into Outer Space

Note verbale dated 15 November 2017 from the Permanent
Mission of Mongolia to the United Nations (Vienna) addressed to
the Secretary-General

The Permanent Mission of Mongolia to the United Nations (Vienna), in
accordance with article IV of the Convention on Registration of Objects Launched
into Outer Space (General Assembly resolution 3235 (XXIX), annex), has the honour
to transmit information concerning the **Mazaalai (NUMSat-1)** satellite, which was
launched on 3 June 2017 (see annex).

ational
developing
satellite in



About second satellite "TEMUULEL"

Nano-satellites for scientific research and technology testing

- It measures 10 cm³ and weighs no more than 1.3 kg
- Transmits information in the UHF / VHF radio range
- At an altitude of 400 km, the orbit is inclined at 51 degrees

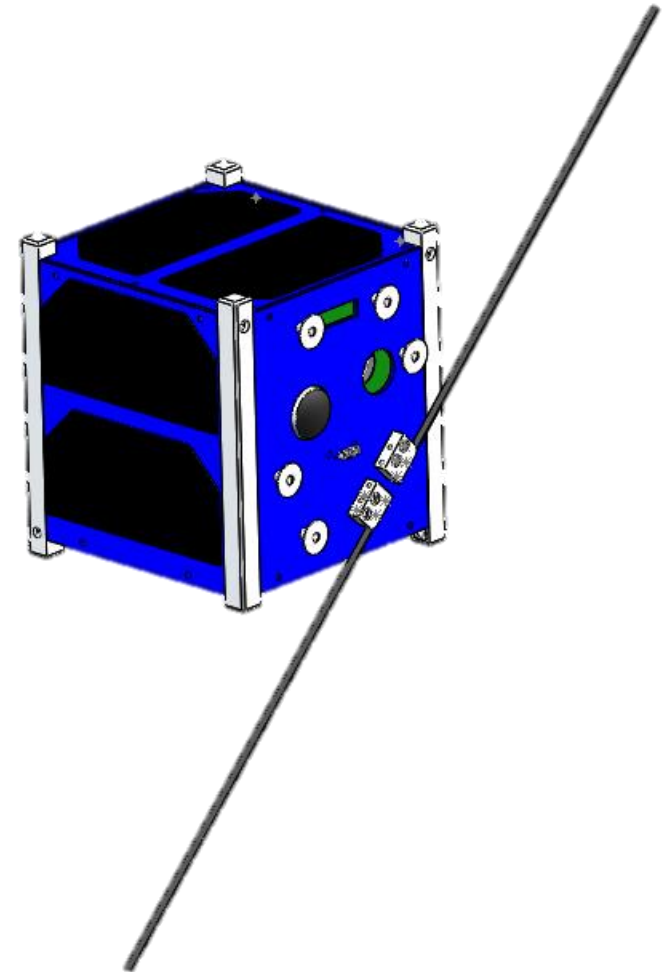


Temuulel satellite project

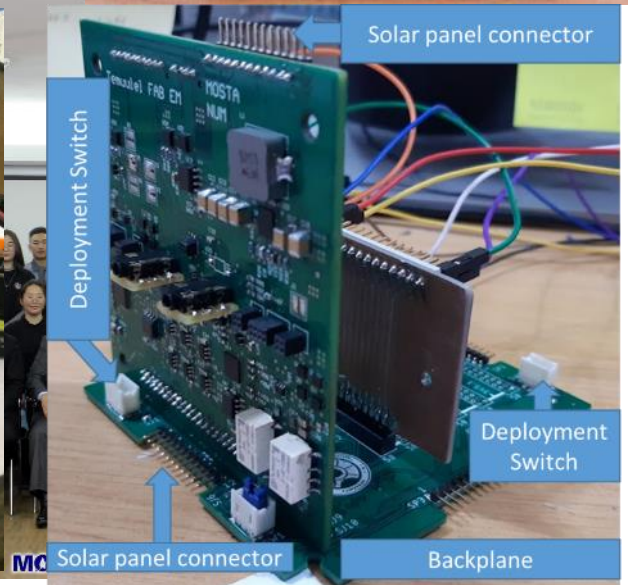
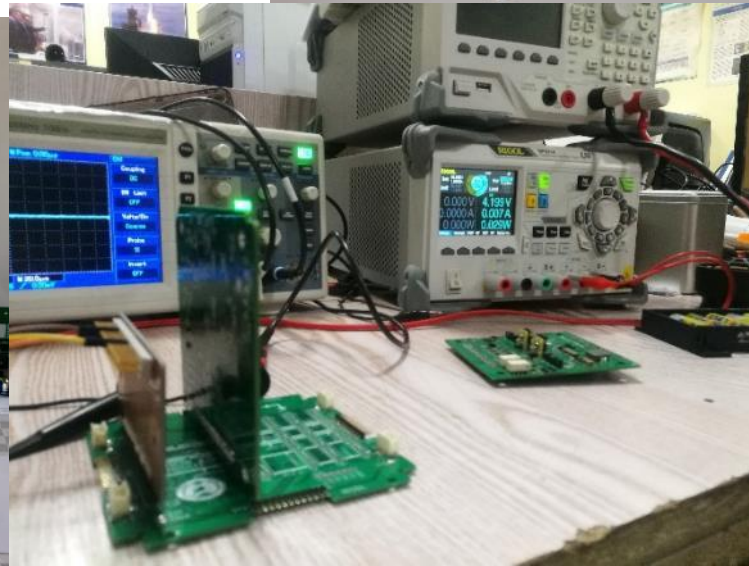
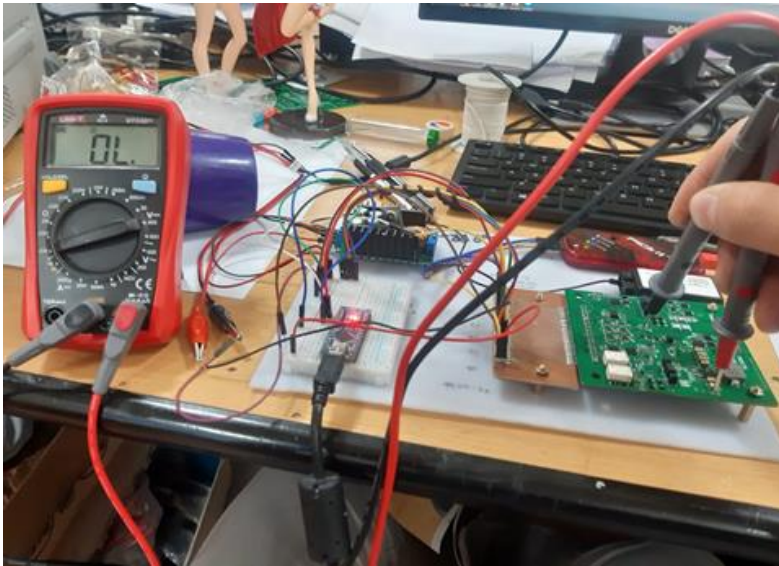
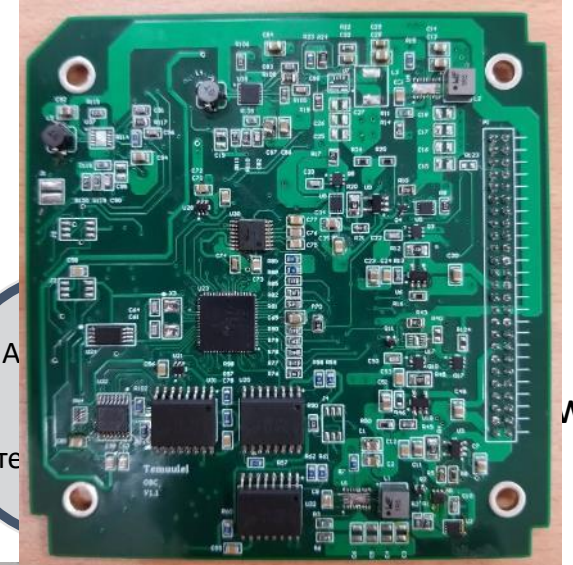
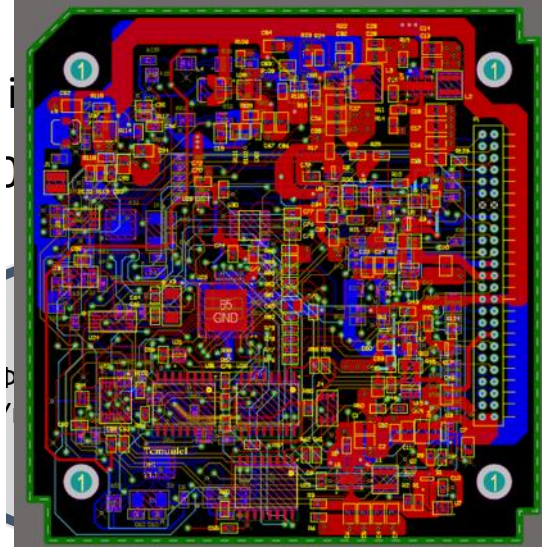
To demonstrate that the entire satellite building and operating process can be done domestically

TEMUULEL satellite:

- 1U Cubesat – Education & Tech demo mission
- BIRDS bus system
- Built by student and Staff of NUM, members of MOSTA
- Main mission
 - Earth observation
- Secondary
 - Remote data collection
 - On board programming of SoftCIB
 - Send your dreams into space
- Target launch year: 2022



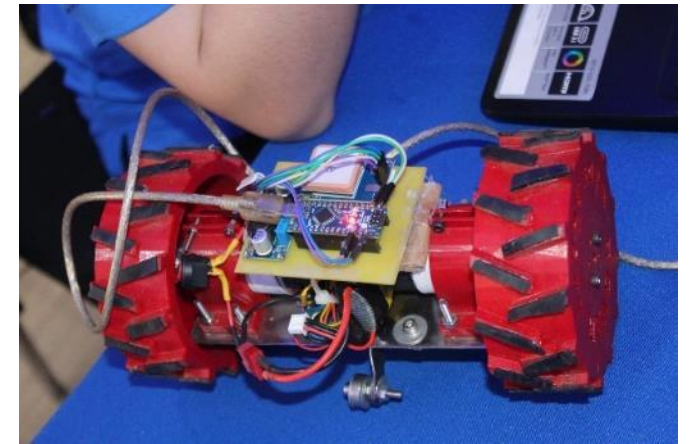
Temuulel Project - Current Status...



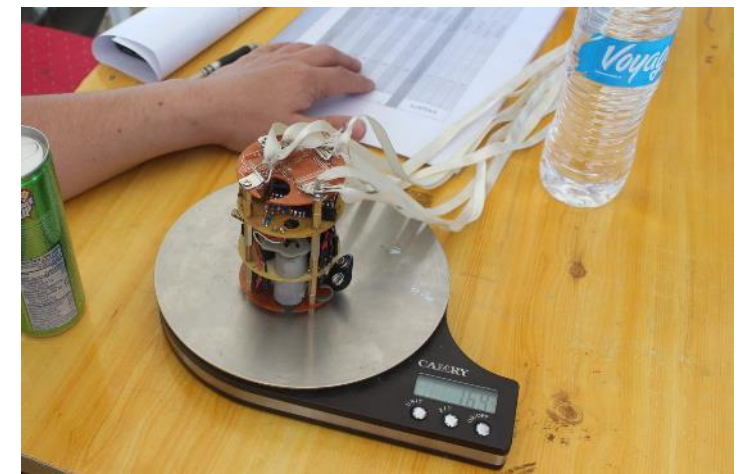
CANSAT 2022 competition



- “Cansat-2022” 5th National competition for launching a cansat was successfully organized after 7 years break



CANSAT 2022 competition



For Highschool Students - MAKER CAMP

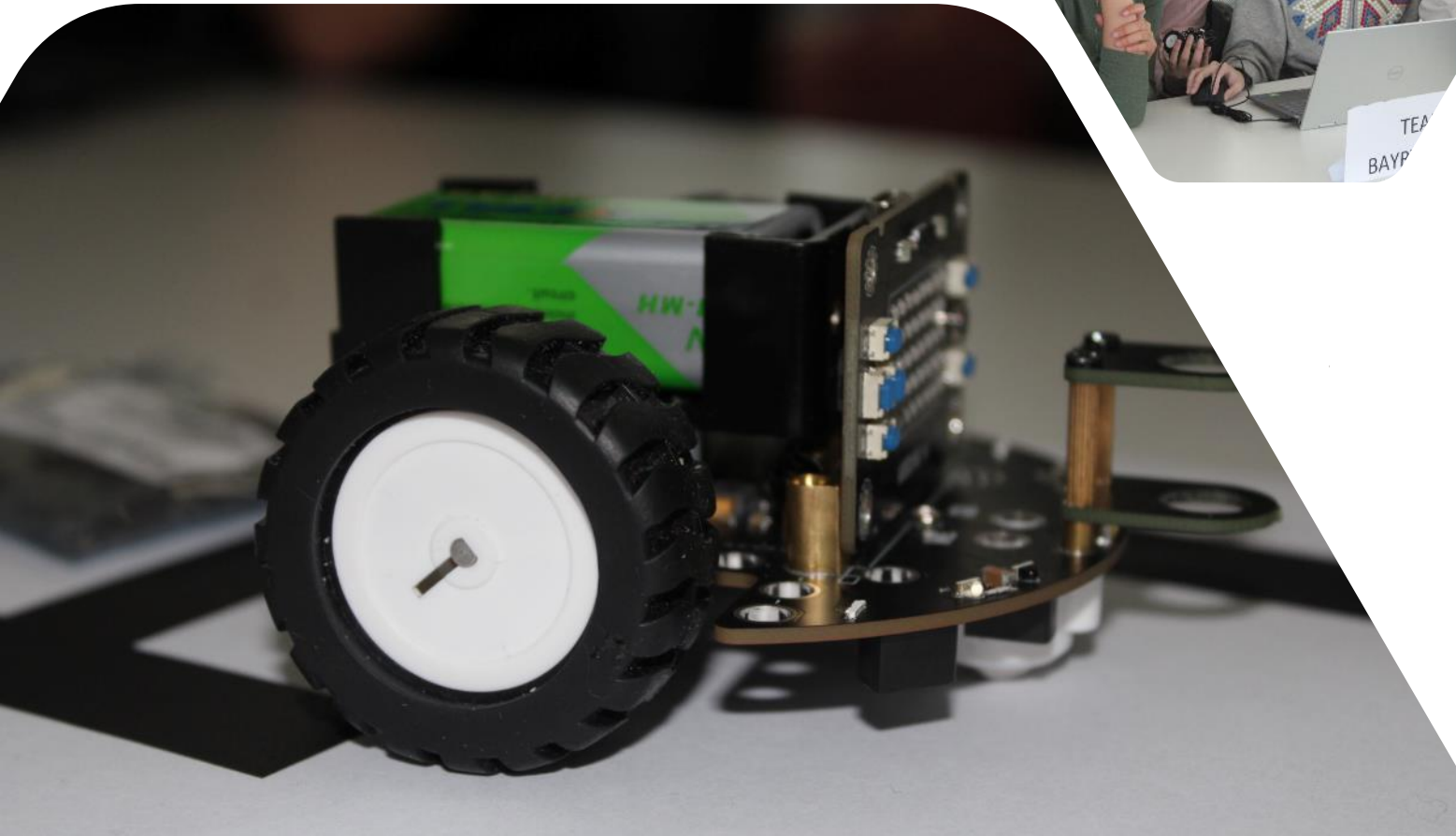
- A competition was organized in which high school students from 18 countries competed in teams
- Main objective is to obtain basic concept knowledge about a satellite



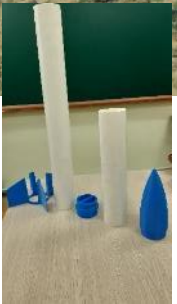


Robotics competition for highschools students

- Purpose is to gain knowledge about intelligence vehicle and robot programming algorithms



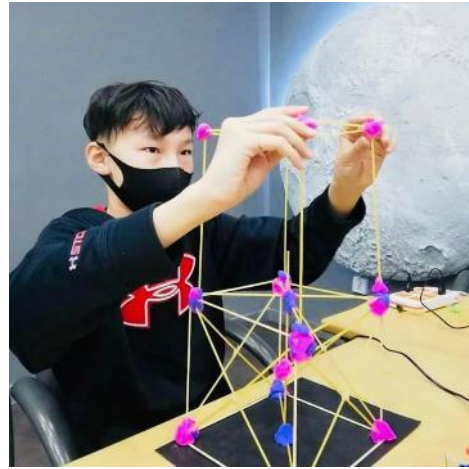
Amateur rocket development – MoSTA rocket club



Current best achievement is approx. 400m

Space Academy

- To organize basic space science and engineering training to junior highschool children



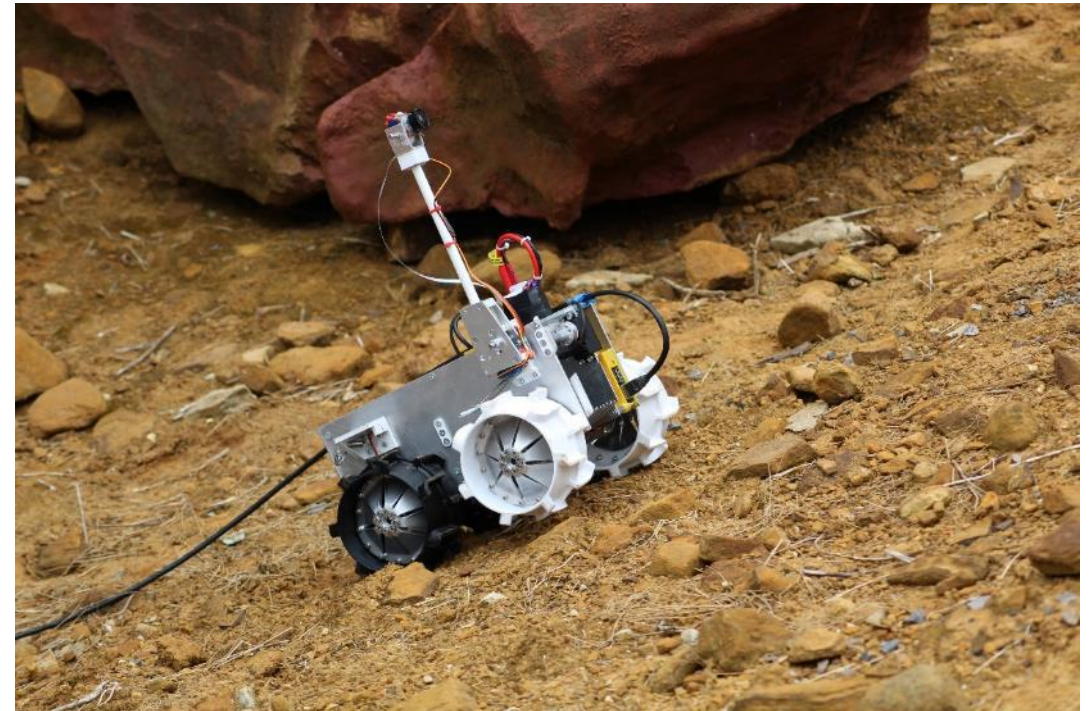
“Mongolian Gobi – Moon Challenge”

MOSTA (MGLC) International competition/workshop

- **Purpose:** Education, Research, Development, Outreach
- **Participants:** Universities, Institutes and Amateur Groups
- **Sponsors:** **Companies**, Space Agencies, NGOs, Government
- **Management:** **MOSTA** (Perpetrations started already)
- **Competition** and **Workshop** will held at **same time** in Mongolian Gobi (~week long)
- Starting from **2022**, it will be held annually.

“Mongolian Gobi – Lunar Challenge” (MoonGobi) International competition/workshop

- Each team shall have and bring their small vehicle (**Moon Rover**)
- International teams compete each other to accomplishing the **given missions** in **extreme environment**
- **Mission categories:** Landing, Mining, Exploring, etc ...
- **Challenges**
 - Operations/functions
 - Durability
 - Self-sustainability
- **Duration of the challenge:** 2 nights and 2 days (tentative)



University of Surrey's winning rover in the RAL Space robotic trails area

Credit: Thales Alenia Space in the UK

THANK YOU VERY MUCH FOR YOUR ATTENTION