MALAYSIA’S GNSS INITIATIVES

Azlikamil Napiah
Director General
Malaysian Space Agency (MYSA)
Ministry of Science, Technology and Innovation (MOSTI)
**MISSION**
To develop the capabilities of the country's space sector to contribute the economic growth, sustainable development, knowledge generation, national sovereignty and the well-being of the people.

**MALAYSIAN SPACE AGENCY (MYSA)**

In Dec 2019, the Government of Malaysia had approved the formation of MYSA through the merging of National Space Agency (ANGKASA) and Malaysian Remote Sensing Agency (MRSA).
NATIONAL SPACE POLICY 2030 (DAN) 2030

“MALAYSIA SPACE EXPLORATION 2030 (MALAYSIA SPACE-X 2030)”

STRENGTHENING GOVERNANCE IN OPTIMIZING NATIONAL ACCESS TO SPACE CAPABILITIES

1. National Space Committee (JANGKA)
2. To formulate national space act
3. Review / formation of the Space Technology Ecosystem Blueprint

FOCUSING ON NATIONAL SPACE TECHNOLOGY, INFRASTRUCTURE AND APPLICATIONS

5. GNSS Signal Monitoring and Testing System Development Programme (2021-2025)
6. Short Range Launcher Development Programme (2021-2025)
7. Space Technology Infrastructure Operation (Assembly, Integration and Testing-AIT)

DRIVING THE DEVELOPMENT OF SPACE SCIENCE, TECHNOLOGY AND BUILDING EXPERTISE

8. Expertise development through space R,D,C & I activities involving academia and industry
9. Implementing the RISE programme
10. Implementing space science research, awareness and cultivation programme (Langkawi National Observatory)

CONTRIBUTING TO THE ECONOMY AND SOCIETAL WELLBEING

11. Development of Space Industry Strategic Plan (2020-2025)
12. Industry Sector Availability Study (2021) – Space – Short Term
13. Space Technology Incubation Programme (2023-2024)
14. Commercialization of 5 space products and technologies by local companies internationally (2030)

IMPROVING AND STRENGTHENING INTERNATIONAL COOPERATION AND NETWORK

15. Strengthening international cooperation (SCOSA, APRSAF, UNOOSA, ESCAP)
16. Participate in scientific initiatives/ international cooperation programmes related to space technology (JAXA, AIRBUS, ANSI, etc.)

STRATEGIC ACTIVITIES/INITIATIVES WHICH ARE AND WILL BE IMPLEMENTED UNTIL 2030
A Centralized Coordination at national level involving representatives from various ministries in order to enhance space governance.

**NATIONAL SPACE COMMITTEE**

**National Science Council (NSC)**
Chairman: Prime Minister

**National Space Committee**
Chairman: Minister of Science, Technology and Innovation

**Space Coordination Committee**
Chairman: MYSA

**Technical Working Group on GNSS**
Chairman: MYSA

**Technical Working Group on Remote Sensing**
Chairman: MYSA

**Technical Working Group on Communication**
Chairman: SKMM

**Technical Working Group on Space Science and Education**
Chairman: National Planetarium

**Technical Working Group on Space Industry**
Chairman: NAICO, MITI
NATIONAL GNSS INFRASTRUCTURES

**MyRTKnet (JUPEM)**
97 CORS stations as of 2021

Source: https://www.myrtknet.gov.my/sbc

**SGeDNet (Sarawak Land & Survey)**
21 CORS stations as of 2021

Source: Sarawak Land and Survey Department

**SISPELSAT (Marine Department)**
6 stations as of 2021

Source: Marine Department

**GBAS (Civil Aviation Authority Malaysia, CAAM)**

Source: https://aip.caam.gov.my/
NATIONAL GNSS INFRASTRUCTURES

R&D CORS Network
23 stations as of 2021

i. A collaboration network between Government agencies, universities & industry.

ii. Supports many research & academic activities and serve as a platform to develop space-based applications for the country.
SCIENTIFIC ACTIVITIES

Ionospheric Study: Dense TEC Map
Equatorial Ionosphere Index & Alert System
Mobile Workforce Application

DGPS Integrity Monitoring System
GPS Meteorology System
Signals Interference monitoring
Smart City Service Delivery Engine
Tracking, tracing and trigger system

Malaysian GCP database development for image orthorectification, accuracy assessment and reference point.
WAY FORWARD

01
Enhancement of GNSS Positioning Infrastructure and services
- GNSS Data Centralization
- Satellite Signal Monitoring & Assessment System / Regional Monitoring station
- Satellite based Augmentation System (SBAS) payload & Control Centre

02
GNSS R&D and Widening local applications
- Development of high accuracy applications
- GNSS Vulnerability Mitigation / counter-spoofing technology development
- Alternate PNT technology for critical application.
- GNSS interference Detection and Testing Lab

03
GNSS Downstream Industry development
- Provide institutional support to encourage the development of the local GNSS downstream industries and start-ups to become more competitive in the global market.
- Support the Malaysia's digital economy initiative
Thank you