Item Agenda 7 : Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment

Thank you, Mr. Chair.

Spatial-based applications have impacted numerous aspects of human life in this era. Indonesia has developed remote sensing technology to assess natural resources, environment, and disaster mitigation. Numerous applications, such as monitoring paddy growth, deforestation, oil palm planting, forest fire, flood, and landslide, as well as monitoring land use/cover change, are widely developed in Indonesia.

Indonesia develops remote sensing technological research and applications, including:
1. Remote sensing satellite technology via the LAPAN-A4 satellite with its mission to observe the Earth, both the environment and natural resources using an optical imager, monitoring maritime traffic using the Automatic Identification System (AIS) which is capable of recording millions of ship data globally per day, and research scientifically by carrying a magnetometer sensor.
2. Remote sensing data and applications for increasingly widespread and innovative use in various scopes, including monitoring the Covid-19 distribution area, mapping poverty areas, environmental conditions of poor families living, tax mapping, scientific proof for legal issues (e.g., cannabis plantation or illegal burning detection) through LAPAN collaboration with the Ministry of Health, Indonesian National Disaster Management Authority, Corruption Eradication Commission, Tax Directorate General, National Narcotics Board, Ministry of Social Affairs.

Indonesia is of the view that innovation of utilization of space-based data is necessary to produce relatively rapid yet precise and accurate information. Developing countries have gained access to an increasing amount of remote sensing data (multisensory, e.g., Landsat and Sentinel series satellites) with higher spatial and temporal resolutions during the last decade. However, optimizing data use requires capacity building of developing countries as well. Apart from that, Indonesia has made several efforts to meet those requirements. Therefore, Indonesia encourages related capacity building for developing countries to be continuously developed and organized by UNOOSA.

Thank you, Mr. Chair.

Item Agenda 8 : Space Debris

Thank you, Mr. Chair.

Indonesia took note that the trend of space debris was reinforced by the increasing deployment of small satellites of mega-constellations, and inappropriate anti-satellite practice this decade. Indonesia supports the broad discussion of research on space debris, the safety of space objects with nuclear power sources on board, and problems relating to their collision with space debris. Thus, Indonesia encourages increased international collaboration inclusive in the implementation of space debris mitigation guidelines and guidelines for the long-term sustainability of outer space activities.

In 2021, Indonesia succeeded in providing assistance to the re-entry of TELKOM-3 satellite by predicting the orbital evolution of the object using semi-analytical calculation by taking into account the latest publicly available orbital parameters and space weather conditions. We also performed coordination with ROSCOSMOS as the representation of launching country as well. Therefore, Indonesia pushes international collaboration on space debris mitigation and remediation including observation, characterization, and re-entry operation.

Indonesia also has developed capacity in space debris monitoring, such as:
1. Conducting new study on space debris population and its risk to Indonesian satellites;
2. Improving our predictive model to obtain higher accuracy; and
3. Developing its own optical telescope system for space debris observation in Kupang, East Nusa Tenggara Province which includes international collaboration for future activities.

Thank you.

Item Agenda 9 :   Space-system based disaster management support

Thank you Mr.Chair

Indonesia as a disaster-prone country, including the most flood-prone in the world, is aware of and supports the development of space-based disaster management. LAPAN plays an active role by providing information based on satellite data at the location of the disaster. The types of disasters monitored include earthquakes, tsunamis, landslides, floods, and volcanic eruptions. In addition, drought, and forest/land fires. In this disaster response, it is done by integrating several image data (multi-resolution and multi-sensor), according to the existing data availability conditions. LAPAN as member of Sentinel Asia and International Charter makes it easier to access data (especially high spatial resolution and near real-time) needed in disaster response.

Indonesia commits to develop remote sensing data widely applied in our national earth monitoring system particularly disaster mitigation, including early warning, emergency response and post-disaster management activities that coordinated through the Indonesian National Disaster Management Authority (BNPB). The information has monitored and delivered during 2021 includes: forest and land fire, flood and landslide, earthquake, oil spill, and covid-19 pandemic.

LAPAN develops disaster mitigation information system (SIMBA), an early warning and emergency response information service based on remote sensing data that could be access on http://sipandora.lapan.go.id/. Types of information presented: 1. Cloud coverage and rainfall conditions from satellite data 2. Fire Hazard Rating System (SPBK) 3. Monitoring of hotspot conditions 4. Fire haze, and information on burned land 5. Potential for flooding 6 Potential for flooding/drought in rice growing areas 7. Volcanic eruptions. Medium and high-resolution satellite data are used to provide disaster emergency response information during and after a disaster event.

LAPAN as regional support office of UNSPIDER triggered in 2021 the International Charter to get high resolution data to monitor the affected area by earthquake in West Sulawesi in January, flood and landslides by Seroja Cyclone in East Nusa Tenggara in April, also volcanic activity at Semeru in December. All these disasters have devastating impact to the population, infrastructure and livelihood. The efforts have taken place in addressing its impact.