Item Agenda 8
Recent developments in global navigation satellite systems

By Dr. Emanuel Sungging Mumpuni

Madam Chair,

Indonesia attaches the importance of developing an open and reliable GNSS data system. Indonesia utilizes GNSS data which is further processed to become Real-Time GNSS Indonesia. This Real-Time GNSS Indonesia is used to calculate the real-time position of Continuously Operating Reference Stations (CORS) in Indonesia through 434 real-time GNSS stations.

All of these stations deliver GNSS observation data, every second, to the data processing center at the Indonesian Geospatial Information Agency (BIG). The data will further be analyzed using Real-Time Precise Point Positioning (RTPPP) software. The positioning process is carried out using real-time Precise Point Positioning Ambiguity Resolution (PPP-AR) and real-time Precise Point Positioning Regional Augmentation (PPP-RA) techniques so every changing position can be produced every second.

This real-time GNSS system accommodates the needs of monitoring earthquakes and the Indonesia Tsunami Early Warning System (Ina-TEWS) in the form of Earth Quake Mode (which only appears when an earthquake occurs) and Earth Quake Replay Mode (a facility for replaying earthquake events which can be accessed at Earth Quake Info). This system also features real-time Zenith Wet Delay (ZWD) monitoring.

Regarding the use of global navigation satellite systems, Indonesia is of the view that a worldwide and regional space-based positioning, navigation, and timing systems' compatibility and interoperability are necessary to be accompanied by guarantees of data openness, especially for developing countries.

Thank you Madam Chair