Opening Remarks by Hon'ble Lyonpo

Ministry of Information and Communications

International Telecommunication Union (ITU) Regional Radiocommunication Seminar 2018 (RRS-18)

Date: 23rd July, 2018

Time: 9:30 AM

Venue: Conference Hall, Namgay Heritage Hotel

Good Morning Ladies and Gentlemen!

- On behalf of the Royal Government of Bhutan and the Ministry of Information and Communications (MoIC), I welcome you to Bhutan and specifically to the Regional Radiocommunication Seminar 2018 for Asia and Pacific co-organized by the International Telecommunication Union (ITU) and the Ministry of Information and Communications (MoIC). It is a great pleasure and opportunity for Bhutan to host this first ever event here in Thimphu, the capital of Bhutan.
- Historically, Bhutan's entry into the space era began with the allocation of the following two geostationary orbital positions by the ITU to Bhutan:
    1. 59.1° E longitude which was allotted in 1988.
    2. 86° E longitude allotted in 2000.
- These satellite orbital slots are valuable as such slots are very limited.

- It is clear that satellite technologies and applications have a huge potential for accelerating the socio-economic development of a nation by supporting communications to both urban and remote parts of the country and as a redundant infrastructure in case of disasters.
- Satellites can also be used for earth observation, which can be applied in planning, monitoring and research in almost every sector.
- Satellites applications would be especially useful for a developing country like Bhutan, which is landlocked and mountainous.
- Effective use of satellite technology would also facilitate in achieving national objectives and the UN Sustainable Development Goals (SDGs). Satellite technology is evolving rapidly and is moving towards providing higher functionality at lower costs.
- It is, therefore, important for Bhutan to harness the opportunities that satellite technology have to offer in improving the quality of life of its people.
- With these considerations it has now became clear that Bhutan will need to develop capacity and expertise in satellite technology if it is to protect the valuable limited orbital slots that have been allocated by ITU for future use.
- Towards this, at the 18th SAARC Summit in 2014, the Indian Prime Minister announced that India would launch a South Asia Satellite for use by the SAARC member countries.
- Government of India has allocated a transponder to Bhutan to be utilized for Bhutan's sole use.
- To benefit fully from India's generosity, Bhutan is in the process of building basic infrastructure on the ground and the capability to manage it well to

fully benefit from India's generous offer of the South Asia Satellite to meet its various development needs.

- It is with these objectives that Bhutan is now seeking to slowly develop skills and expertise in satellite technology.
- In order to build technical capacity in the country Bhutan joined the Multi-National CubeSat Constellation Project called BIRDS-2 in Japan, which is a cross-border inter-disciplinary satellite project for non-space faring countries in November, 2016 with the profound vision and guidance of His Majesty the King.
- As part of the project students would undergo a Masters Degree in Space Engineering at the Kyushu Institute of Technology in Japan.
- During the 2 years project, the students from participating countries are working together to design, develop and operate a CubeSat (1kg, 10cm cubic) for space research, for each of the five participating countries.
- The three CubeSats of BIRDS-2 project was transported to JAXA on May 14, 2018 by BIRDS-2 project members.
- The satellites were shipped to USA on May 16, 2018.
- The satellites were launched with the cargo spacecraft to ISS on a SpaceX rocket on June 29, 2018.
- The Cubesats will be deployed from ISS by early August, 2018.
- The satellite when launched will leverage Bhutan from a previously non space-faring nation to an emerging space nation.
- Such CubeSats are much cheaper and easier to launch, and through this students will get introduced to the frontiers of space and satellite technologies as innovative engineers and dynamic leaders.

- As these are much smaller, the CubeSats developed will have very limited use and will primarily address specific research studies.
- However, as Nanosats are a new development in satellite technology it holds enormous potential even for communication with a constellation of small sats.
- Such a project would provide Bhutan a good opportunity to not only build, but also launch and operate Bhutan's first spaceborne satellite, thus paving the way for Bhutan to move forward in the field of space and satellite technology.
- From an organizational perspective, the Department of IT & Telecom under the Ministry of Information and Communication is restructured as "Division of Telecom & Space," to take forward the space and satellite activities in Bhutan.
- To prepare the DITT for the space program there is a need to rapidly build up capacity through both long term and short-term trainings, and to build networks to make participate effectively in international forums.

Ladies and Gentlemen,

- This seminar gives, specially Bhutan, an opportunity to develop capacity and I hope this will be true for all participants here. The seminar will take you through the basic concepts of the regulatory framework for international frequency management and the ITU Radiocommunication Sector (ITU-R)

recommendations and best practices in terms of spectrum usage for both terrestrial and space services.

- The seminar will include other relevant topics including but not limited to:

- National and International spectrum management and coordination;
- ITU and ITU-R Structures and functions; ITU Radio Regulations and its Rules of Procedure, and World Radio Conferences;
- Procedures to record frequency assignments in the Master International Frequency Register; modifications to the Radio Regulations associated to Resolutions decided by the last World Radio Conference (WRC-15) and Radiocommunication Assembly (RA-15);
- Hands-on training on ICT tools developed by ITU for frequency notifications and their technical examinations.

Inline with these sessions, I hope you will have a fruitful and productive seminar in the following days. I offer you my best wishes for a successful seminar and an enjoyable stay in Thimphu, Bhutan.

Thank you and Tashi Delek!