

BHUTAN TODAY

Sunday, September 26, 2021

Vol. 14, Issue 38, Nu. 10/-

www.bhutantoday.bt

Bhutan-India Cooperation in Space Technology

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On September 24 this week, a virtual signing ceremony for the Implementing Arrangement between Indian Space Research Organisation (ISRO) and Department of Information Technology and Telecom on the Joint Development of a Small Satellite for Bhutan was held at the Ministry of Information and Communication premises in Thimphu.

The ceremony was attended by Ambassador of India to Bhutan Ruchira Kamboj, Ambassador of Bhutan to India Major General Vetsop Namgyel, Scientific Secretary of the Indian Space Research Organisation Umamaheswaran R, Officiating Foreign Secretary of Bhutan Fema Choden, Secretary of Ministry of Information and Communication Phuntsho Tobgay, and officials from the Ministry of External Affairs.

A statement from the Indian Embassy in Thimphu said space technology is a promising area of India-Bhutan cooperation in accordance with the vision of Prime Minister Narendra Modi and His Majesty the King of Bhutan to take the India-Bhutan partnership to new and emerging areas of the 21st century and add a fresh dimension to the

multi-faceted India-Bhutan ties.

"Pursuant to the India-Bhutan Joint Statement of the state visit issued during the visit of Prime Minister Shri Narendra Modi to Bhutan in August 2019 and the Memorandum of Understanding between India and Bhutan on Cooperation in the Peaceful Uses of Outer Space signed on November 19, 2020," the press release stated.

Further, the Indian Space Research Organisation and Department of Information Technology and Telecom are presently collaborating on the joint development of a small satellite for Bhutan which is targeted for launch in December 2021.

The Implementing Arrangement is a document that lists out the terms and conditions for cooperation between India and Bhutan on the actual development, launch and operation of the Joint Satellite, thus giving a practical shape to an ambitious vision.

Meanwhile, in a virtual meeting between Prime Minister Narendra Modi and Prime Minister Lotay Tshering on 20 November 2020, Prime Minister Modi had announced that the small satellite for Bhutan will be launched in 2021, and that the Indian side will extend capacity building to Bhutanese engineers for

this purpose.

Indian Embassy in Thimphu stated that the ISRO organised the first phase of training for a team of four Bhutanese space engineers from the Department of Information Technology and Telecom, under the Ministry of Information and Communications of Bhutan, at the UR Rao Satellite Centre (URSC) in Bengaluru, India from 23 December 2020 to 25 February 2021.

Phase-I of the training involved various theoretical and technical aspects as well as visits to laboratories and test facilities. The Bhutanese team will travel to India in October 2021 for Phase-II of the training which will involve activities towards developing the small satellite for Bhutan, INS-2B and integration of Bhutan's payload into INS-2B.

And finally, Bhutan's satellite will be launched into space on a Polar Satellite Launch Vehicle (PSLV), ISRO's reliable and versatile workhorse launch vehicle from the Satish Dhawan Space Centre in Sriharikota along with OceanSat 3- an earth obser-



vation satellite dedicated to the study of the atmosphere and the ocean.

Sources said the satellite itself will be a Cubesat and is being fully funded by the Government of India. The primary payload will be a nano-multispectral payload which will provide high resolution images of the earth, thus helping Bhutan in disaster management and resource mapping.

The secondary payload is a digipeater, designed and built by Bhutan, which will function as an amateur radio satellite and thus enhance Bhutan's understanding of wireless communication through satellites. The capacity building, training and knowledge-sharing of Bhutan's project team is a key element of the project.

"The Project is in line with the vision of His Majesty The King of Bhutan to harness space technology and its applications for the

benefit of the country and its people. The project also adheres to Prime Minister Narendra Modi's vision to keep our people at the heart of the India-Bhutan relationship," the Indian Embassy statement read.

In addition, the Project is also in accordance with the Government of India's Neighbourhood First Policy under which India accords priority to its relations with all its neighbours, particularly Bhutan.

Ambassador of India Ruchira Kamboj, at the signing ceremony, said, "We are delighted that we have reached the last stage as Bhutanese engineers are all set to leave for Bengaluru in October 2021, as a precursor to the launch of Bhutan's satellite in December 2021. We salute the vision of our leadership Prime Minister Narendra Modi and His Majesty The King of Bhutan on this occasion."