

2015-2020 Space Cooperation Outline
between
the Indian Space Research Organisation of the Republic of India
and
the China National Space Administration of the People's
Republic of China

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The Indian Space Research Organisation of the Republic of India (ISRO) and the China National Space Administration of the People's Republic of China (CNSA); hereinafter referred to collectively as the "Parties".

Considering *the Memorandum of Understanding between Indian Space Research Organisation and China National Space Administration on Cooperation in the Peaceful Use of Outer Space* signed on September 18, 2014, based on the principles of equality, mutual benefit, peaceful uses and common prosperity, and by combining with the Parties' respective space development programme, the Parties agreed to establish the "2015-2020 Space Cooperation Outline between ISRO and CNSA" (hereinafter referred to as the Outline). The cooperation themes established in the Outline will be an Action Guide of the space cooperation in the space field from 2015 to 2020. Details of referred contents are listed in the Outline as an Appendix.

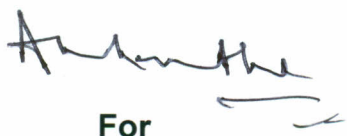
ISRO and CNSA are the leading agencies for the implementation of the Outline. The Parties are responsible for the supervision and coordination of the implementation of the Outline. Specific projects in

the themes referred to in the Appendix of the Outline should be further negotiated by the relevant implementing entities of the Parties in order to specify terms and conditions of the cooperation through separate arrangements. Agreements or commercial contracts should follow the required procedures before their implementation.

The contents of the Outline could be updated and new cooperation projects could be added as part of the Outline by consensus of the Parties. The content of the Outline will be reviewed biannually by the Parties to take into account circumstances during the implementation of the Outline.

The Outline shall come into operation on the date of its signature. The Outline may be amended at any time by mutual written consent of the Parties. Any difference arising out of interpretation and implementation of the Outline shall be settled amicably by consultation between the Parties.

Done in Beijing on May 15, 2015, in two originals each in the Hindi, Chinese and English languages, all texts being equally authentic. In case of divergence in interpretation, the English text shall prevail.



For

**the Indian Space Research
Organisation of
the Republic of India**



For

**the China National Space
Administration of
the People's Republic of China**

Appendix

2015-2020 Space Cooperation Outline Themes and Topics

between

the Indian Space Research Organisation of the Republic of India

and

the China National Space Administration of the People's Republic of

China

Theme No. 1: Cooperation on Remote Sensing Missions, Data and Applications

Topics		Leading Entity of China	Leading Entity of India
1.1	Reciprocal provision of the in-orbit satellite data for emergency response to major disasters	Earth Observation System and Data Center of CNSA	National Remote Sensing Centre (NRSC) of ISRO
1.2	Data sharing and exchange under the principle of reciprocity		
1.3	Direct reception of remote sensing data from other side by using its own ground stations		
1.4	Cross calibration of remote sensing satellites data		
1.5	Sharing of information and expertise in earth observation applications including natural disaster management, agriculture, water resources, environment monitoring and protection, etc.		
1.6	Development of new science payloads for Earth observation		Space Applications Centre (SAC) of ISRO
1.7	Discuss effective use of Remote Sensing Satellites virtual constellation through the in-orbit satellites and future plans		Earth Observation System (EOS) of ISRO Headquarters

Theme No. 2 Cooperation on Space-based Meteorology

Topics		Leading Entity of China	Leading Entity of India
2.1	Satellite data assimilation into weather forecasting models	National Satellite Meteorological Centre of China Meteorological Administration	Space Applications Centre (SAC) of ISRO
2.2	Tropical storms tracking and forecasting		
2.3	Climate change studies		

Theme No 3: Cooperation on space Science, Lunar and Deep Space Exploration

Topics		Leading Entity of China	Leading Entity of India
3.1	Based on the existing scientific results and future respective scientific exploration plans of the two sides, to jointly carry out studies on the scientific objectives of lunar exploration and deep space exploration and on the scientific data applications	Lunar Exploration and Space Program Center of CNSA	Space Science Programme Office, ISRO Headquarters
3.2	Discuss cooperation on payload development or payload/instruments piggybacking based on Chinese Chang'E-4 platform		
3.3	Based on respective plans of the two sides for deep space exploration, discuss cooperation on mission-level, instrument-level or individual technology for deep space exploration		
3.4	Cooperation in future joint observations and cross-calibration of the Chinese Astronomical satellite HXMT and the India astronomical satellite ASTROSAT	Chinese Academy of Sciences (CAS)	

Theme No. 4: Cooperation on Education and Training

Topics		Leading Entity of China	Leading Entity of India
4.1	Training and exchange of experts in the field of Space Sciences, Space Technology and Space Applications	Beihang University and	Indian Institute of Remote Sensing (IIRS) of ISRO

Topics		Leading Entity of China	Leading Entity of India
4.2	Enhancing the communication on the curriculum provision and teachers sharing between the two Asia-Pacific Regional Centres for Space Science and Technology Education Affiliated to the United Nations	Regional Centre for Space Science and Technology Education in Asia and the Pacific (China) (affiliated to the United Nations) (RCSSTEAP)	and Centre for Space Science Technology and Education in Asia and the Pacific (CSSTEAP)

Theme No.5: Cooperation on Piggy-back Launching Service

Topics		Leading Entity of China	Leading Entity of India
5.1	Cooperation on providing launch services for satellites as co-passengers	China Great Wall Industry Corporation (CGWIC)	Antrix Corporation Ltd (ACL)

Theme No. 6: Cooperation on Satellite Navigation

Topics		Leading Entity of China	Leading Entity of India
6.1	Discussion on the cooperation in the field of Satellite Navigation and its applications including compatibility and interoperability of navigation signals of either side	China Satellite Navigation Office	Satellite Communication and Navigation Programme Office of ISRO Headquarters

Theme No. 7: Cooperation on Space Components

Topics		Leading Entity of China	Leading Entity of India
7.1	Discussion on the cooperation in the field of space components	CGWIC	ACL