

**COOPERATIVE PROGRAM**  
**among**  
**the Indian Space Research Organization,**  
**the Brazilian Space Agency and**  
**the National Institute for Space Research,**  
**for Direct Reception and Distribution of the Data of**  
**the Satellite Resourcesat-2**

Further to the Framework Agreement between the Government of the Republic of India and the Government of the Federative Republic of Brazil in the Cooperation of Peaceful Uses of Outer Space signed on January 25, 2004; and to the Implementing Arrangement signed on June 4, 2007 regarding the augmentation of a Brazilian earth station to receive and process data from the Indian Remote Sensing (IRS) Satellites. Further to the Cooperative Program signed in 2008 by the Indian Space Research Organization (ISRO), an agency of the Department of Space of the Government of the Republic of India; the Brazilian Space Agency (AEB), an agency of the Ministry of Science, Technology and Innovation of the Government of the Federative Republic of Brazil; and the Brazilian National Institute for Space Research (INPE), an agency of the Ministry of Science, Technology and Innovation of the Government of the Federative Republic of Brazil, for the direct reception and distribution of Resourcesat-1 data. Further, another Implementing Arrangement was signed on July 16, 2014 between the Governments of India and Brazil; and Cooperative Program signed on August 28, 2014 by the ISRO, AEB and INPE regarding the augmentation of a Brazilian earth station for receiving and processing data from

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Indian remote sensing satellites, including from Resourcesat-2.

This new Cooperative Program is established between the Indian Space Research Organization (ISRO); the Brazilian Space Agency (AEB); and the National Institute for Space Research (INPE), herein referred to as the Parties, for the continued direct reception and distribution of Resourcesat-2 data.

The National Institute for Space Research (INPE), the Brazilian executive agency for the subject of earth observation data reception, processing, archiving, and distribution was designated in the Implementing Arrangement to take responsibility and to work together with ISRO in order to accomplish the actions where nominally cited. Similarly, ISRO designated its National Remote Sensing Centre (NRSC), the Indian executive agency to take responsibility and to work together with INPE in order to accomplish all actions agreed by the Parties in this Cooperative Program.

### **Section I – Purpose**

This Cooperative Program establishes the terms and conditions under which ISRO will provide and INPE will receive, process, archive and distribute data from the Indian satellite Resourcesat-2, managed by ISRO on behalf of the Republic of India.

### **Section II – Undertakings of the Parties**

- A. ISRO will endeavor to provide operational Resourcesat-2 services under the terms of this Cooperative Program and will:
1. Make available, for any diurnal satellite overpass, direct data downlink from Resourcesat-2 AWiFS and LISS-3 over areas within the acquisition radius of INPE's earth station in Cuiabá, Brazil;

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2. Provide the Resourcesat-2 specific front-end hardware upgrades to upgrade Cuiabá earth station capabilities in order to receive AWiFS and LISS-3 data in real time;
3. Provide the software upgrades required to generate AWiFS and LISS-3 data products;
4. Assist INPE engineers in setting up the hardware and software mentioned above;
5. Provide orbital elements for calculating antenna-pointing angles that are necessary to acquire signals transmitted by Resourcesat-2;
6. Provide the necessary training for INPE engineers to ensure familiarity with Resourcesat-2 data, including reception and processing ;
7. Grant access to INPE for Resourcesat-2 AWiFS and LISS-3 direct downlink at a flat fee of US\$150,000.00 (one hundred and fifty thousand American dollars) per annum. The NRSC will generate and send the invoice to INPE during the end of every half-year;
8. Provide to INPE an up-to-date version of Resourcesat-2 users handbook, standard Path/Row map, Resourcesat-2 orbit forecast, and application demonstrations; and
9. Reserve the right to curtail or terminate transmissions of data to INPE for reasons of India national security or international obligations and/or foreign policies. In these cases, ISRO will notify INPE and discuss the planned action in the most expeditious manner possible.

B. INPE shall:

1. Set up the hardware and software systems provided by ISRO and upgrade the Cuiabá earth station capabilities

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for the reception, processing, archiving, and distribution of Resourcesat-2 image data;

2. Carry out all applicable tests and inform ISRO as soon as Cuiabá earth station becomes operational to receive and process data;
3. Distribute to users in Brazil, using the same data policy that applies to CBERS and LANDSAT, Resourcesat-2 images processed at the Cuiabá earth station;
4. Produce Resourcesat-2 data products in accordance to the standard distribution formats specified by ISRO;
5. Ensure that all Resourcesat-2 data acquired by INPE are available for distribution on a non-commercial public, non-discriminatory basis;
6. Provide an up-to-date version of the following documents to Resourcesat-2 end users, whenever requested: Resourcesat-2 users handbook, standard Path/Row map, Resourcesat-2 orbit forecast, and application demonstrations;
7. Maintain a current inventory of its Resourcesat-2 holdings and provide at least monthly updates of their metadata and browse imagery to ISRO in an agreed-to format, electronically or on an agreed-to media, once the earth station becomes operational. Also, INPE shall provide an annual report of the data distribution to ISRO;
8. Establish and maintain an on-line system, with external public access, of browse imagery for its Resourcesat-2 data holdings; and
9. Provide Resourcesat-2 data to ISRO in an agreed-to format and media on six monthly basis.

C. It is further agreed that:

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1. ISRO and INPE will each designate program representatives to be responsible for the implementation of this Cooperative Program. Discussion of specific technical matters may be delegated to a technical working group.
2. Program representatives designated by ISRO and INPE will also set conditions and terms for the extension of this agreement, in the near future, to include similar operational services for the next generations of Resourcesat satellites.
3. INPE shall not disclose any confidential or proprietary information obtained from or through ISRO within the scope of this Cooperative Program.
4. ISRO retains the ownership right to all Resourcesat-2 Raw data. Beyond the provisions of Sections II.B.3 and II.B.4, ISRO places no restrictions on INPE to disclose, use, manipulate, generate products from and distribute Resourcesat-2 data.
5. The activities under this Cooperative Program will be conducted in accordance with the laws and regulations of India and Brazil.
6. The Parties will not claim or bring any action against each other for any damage or injury caused by the use of Resourcesat-2 system.
7. Any dispute in the interpretation or implementation of the terms of this Cooperative Program will be referred to ISRO and INPE for amicable settlement.

### **Section III – Entry Into Force**

- A. This Cooperative Program shall enter into force on the date of its last signature and it will remain in force for a period of 3 years or till the end of life of Resourcesat-2

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whichever comes earlier. Termination for whatever reasons will not affect the rights and obligations of the Parties under Section II, which will survive any termination. It is understood that this Cooperative Program may be amended by mutual consent of the Parties in writing.

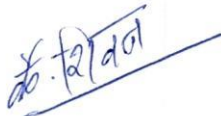
B. In the event that either ISRO or INPE is unable to comply with any provision of this Cooperative Program, either Party, after consultations with the other, shall have the option of terminating or suspending the activities under this Cooperative Program, providing that reasonable notification of such actions is forwarded in writing by one Party to the other.

IN WITNESS THEREOF, respective representatives have signed this Cooperative Program in English language.

For ISRO

For AEB

For INPE



K. Sivan  
Chairman, ISRO



José Raimundo  
Braga Coelho  
President, AEB

*Carlos Alberto Gurgel Veras*  
Presidente Substituto



Ricardo M.  
Galvao  
Director, INPE

Place: Bangalore

Place: Brasília - DF

Place: São Paulo - SP

Date: 30/11/2018

Date: 19/11/2018

Date: 14/11/2018