

Crystallize Research Directions and Build RADI into a First-class Research Institute

The CAS Institute of Remote Sensing and Digital Earth (RADI) was founded in 2012, a year marking the 50th birthday of remote sensing, 30 years of progress in Earth observation and the 15th anniversary of Digital Earth.

Focusing on the consolidation of two erstwhile institutes and different S&T tasks facing the new institute in its infancy, the RADI staff united as one to accomplish a common goal and lay a solid foundation for the further development of RADI.

Successful Consolidation

In light of the development trends in Earth observation both at home and abroad, CAS made a decision to integrate its S&T forces of remote sensing to further improve its

competence in the field so as to satisfy national strategic needs and promote S&T advancement. On March 26, 2012, an announcement was made to set up a leading group for merging IRSA and CEODE.

On April 5, a task force was founded to draft the scheme for the move, kicking off the preparation for RADI's establishment. In accordance with major strategic demands of the country, S&T development in the world, and the CAS goal of producing outstanding achievements, personnel, and ideas, the team made an analysis of global S&T developments and the advantages of the two institutes, and conducted a comparative study on ten Chinese and overseas institutes in the field. It also made comprehensive, in-depth deliberations over such issues as the positioning

RADI campus in the CAS Beijing Advanced Technology Facility





and goals of the new institute, its research areas and directions, academic spectrum and S&T system, human resources, operation mechanisms, and a research campus.

The scheme was cooked up in a democratic way and through combining top-down and bottom-up approaches. Meetings were convened to solicit suggestions from different sides, including CAS members, experts, and administrative personnel and staff members. It took three months and many revisions to complete the document that proved fundamental for the consolidation scheme. It expounded the background and significance for the move, set up the positioning of the new institute, established developmental planning, and laid out a future vision for the next five years.

The scheme was further improved at a joint meeting of the leading group and CAS secretaries-general held on June 21. It was approved at an executive meeting of CAS held on July 5. On September 7, CAS Vice President DING Zhongli came to the new institute to announce its leadership. On

September 23, RADI was formally set up after the approval of the State Commission Office for Public Sector Reform.

System and Mechanism Development

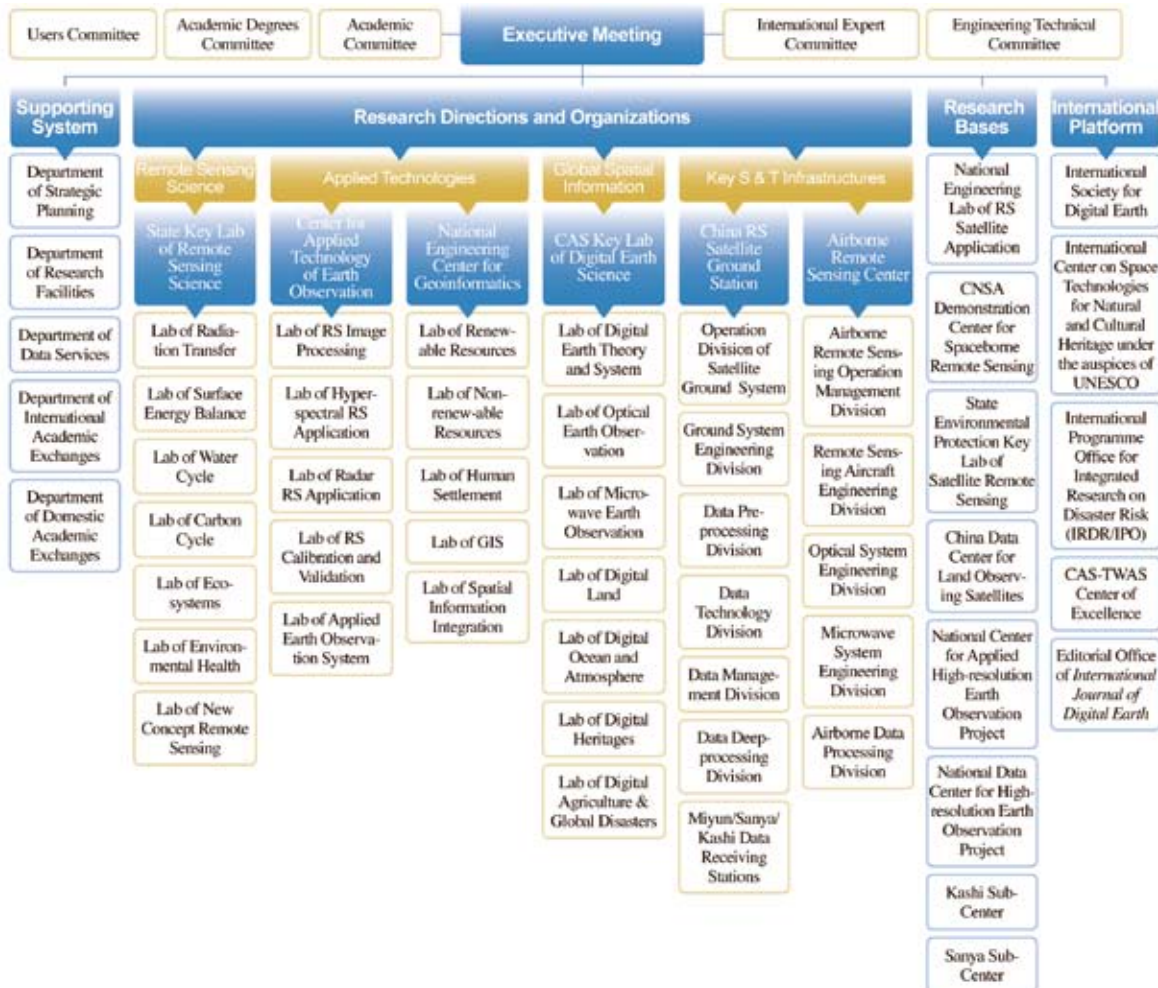
Fundamental tasks for development were soon started after the establishment of its leadership. On the basis of the executive meeting of the Director-General, a decision-making system was put in place to address major issues regarding the early development of the new institute.

At the same time, *ad hoc* committees were set up to undertake major management tasks across the boundaries of different sectors. Thanks to the concerted efforts of its staff, RADI has completed fundamental establishment tasks and embarked on a new stage for development.

Organizational Setups

The S&T system of the two former institutes were reorganized into four modules, namely remote sensing, applied technologies, global information, and big science

Organizational Chart



facilities, with six secondary units and an organizational system featuring a four-level framework and three-level hierarchical management. Commissions were also founded to address issues such as academic affairs, academic degrees, engineering, users, and international advisers. A complete science value chain (comprising basic Earth observation research, technology development, and comprehensive applications and demonstrations) has been created on the basis of existing S&T advantages.

Professional Employment

The newly established institute has completed its tasks of staff employment, including the selection of administrative and academic leaders, and the promotion of S&T professionals. So far, it has nearly 700 staff workers, of whom, about 270 are senior researchers.

After the move, a dynamic, well-structured team with qualified S&T staff has been formed. Meanwhile, a classified evaluation system stressing merits and combining qualitative and quantitative approaches was set up to improve the incentive system and promote the development of staff in various sectors.

Implementing the 135 Plan

A RADI framework for the 135 Plan was worked out for specifying one positioning, three expected breakthroughs, and five important fostering directions over the next five years. It was done in line with the CAS program Innovation 2020, by considering the basic situation of the new institute and extensively soliciting suggestions from different sides.

It also sets forth three breakthrough objectives (developing a space-air-ground Earth observation system, establishing a global system for resource-environment

spatial information, and devising an advanced simulation system for Earth observation), and five major research directions to be fostered (spatial data-intensive science and big data technology; mechanisms and methods of spaceborne and airborne intelligent Earth observation; space information simulation of the Earth system process; comparative studies of global change between planets and the Earth; and geospatial information science). Specific measures were devised to ensure the implementation of the 135 Plan.

Management and Cultural Development

To safeguard a streamlined work flow of different undertakings, more than 30 regulations have been established regarding comprehensive administration, S&T management, human resources, postgraduate programs, international cooperation, finance, and assets.

Focusing on cultivation of good values, integrity, and research conduct, tasks relating to an innovative culture have been performed, including the logo design, website, internal publications, and recreational activity.

Future Development

By pooling advantageous resources in CAS, RADI will be a strategic research force in the academy.

At present, it has national S&T platforms and key facilities, including the State Key Laboratory of Remote Sensing Science, CAS Laboratory of Digital Earth Science, National Engineering Research Center for Geoinformatics, the Demonstration Center for Spaceborne Remote Sensing of the China National Space Administration, National Engineering Laboratory for Geoinformatics, China Remote Sensing Satellite Ground Station, and two remote sensing

RADI campus in the CAS Olympic Village S&T Park.





airplanes. It also houses international S&T platforms, including the International Society for Digital Earth, the International Center on Space Technology for Natural and Cultural Heritage, the International Program Office for Integrated Research on Disaster Risk, and the CAS-TWAS Center of Excellence for Disaster Reduction.

It has accumulated up to 3.3 million scenes of satellite data on file since 1986, built up a research team 700 strong, and enrolled more than 500 graduate students, laying a solid basis for building the institute into a first-class research center at home and abroad.

With rapid developments in spatial information acquisition, application, and service technologies, many different innovations have greatly promoted the development of spatial information science. As a newly established institute, there is much room for further improvement in terms of the mechanism and system, disciplinary layout, human resources, and research operations and outputs. It is facing an uphill task.

At the 2013 annual conference of CAS, President BAI Chunli stressed that CAS institutes are national teams in their respective fields with their own features. They should find the right niches to satisfy national and social needs in a changing environment. They should make clear analysis of their advantages and disadvantages, and make comparisons and judgments rather than working on their own behind closed doors. They should have a correct understanding of external opportunities and challenges, a strong sense of crisis and pressure. We should never slacken our efforts.

Looking to the future, we must have a comprehensive and correct understanding of new changes and new demands of socioeconomic growth, and have intensive deliberations on the new trends and features of S&T development. We will strive to build RADI into a first-class S&T institution by taking advantage of various favorable facilities, seizing a rare strategic opportunity, and accelerating “leapfrog development”. (Adopted from a report of the 1st Issue of RADI Newsletter)