



Aerospace Information Research Institute (AIR) Chinese Academy of Sciences (CAS)

July 2, 2024



AIR is designated to promote the development of aerospace information science and technology, and to facilitate economic and social sustainable development .



AIR History

The Aerospace Information Research Institute (AIR) under the Chinese Academy of Sciences (CAS) was established in 2018 through the merger of three CAS institutes, namely the Institute of Electronics (IECAS), the Institute of Remote Sensing and Digital Earth (RADI) and the Academy of Opto-Electronics (AOE).

IECAS was established in 1956 as China's first comprehensive research institute of electronic science.

RADI was established in 2012 through merging two CAS institutes: the Institute of Remote Sensing Applications (IRSA) founded in 1979, and the Center for Earth Observation and Digital Earth founded in 2007.

AOE was established in 2003, in charge of the R&D of CAS satellite navigation system, aerostat system, and management as well as overall technology.



Human Resource and Education

Pooling Talents to Build Excellent Research Team



❖ Over **4,000** employees,
including

❖ **five** CAS Members



❖ **Some 1,800** postgraduate students

❖ **Over 40** international students

❖ School of Electronic, Electrical and
Communication Engineering under the UCAS

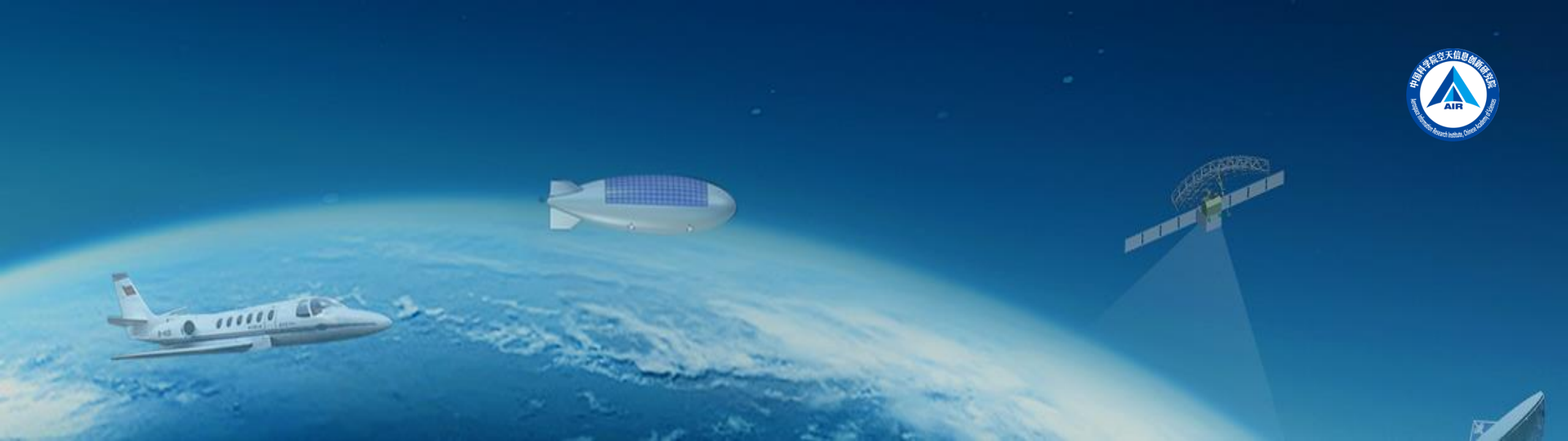
❖ School of Optoelectronics under the UCAS



Campuses across China

Headquartered in Beijing, AIR houses:
5 campuses,
3 R&D centers, and
9 research facilities around China.





AIR Research Fields

AIR is devoted to exploring Earth system science for better understanding of our planet; developing frontier technologies for better Earth observation; building an integrated space-air-ground civil space infrastructure to maximize the value of utilizing aerospace data for social benefits.



Major Research Fields



Airborne Remote Sensing Platform



Payload and Device Technology



Global Satellite Data Receiving Station Network



Remote Sensing Science and Digital Earth



Beidou Navigation and Positioning Technology



Aerospace Information Technology Applications

Airborne Remote Sensing Platform

Airborne remote sensing for social benefits

With four remote sensing aircraft, AIR undertakes missions including scientific experiments, sensor calibration, disaster-relief and environmental monitoring.



Airborne Remote
Sensing Platform

Scientific
Experiments

Public Welfare
Missions

Aerostatics System

Exploring Near Space

AIR develops aerostatics aircraft such as aerostats, tethered balloons, and airships; carries out research on fixed-wing aircraft, integrated buoyancy-lifting aircraft, new concept aircraft, and various special inflatable structures.



Payload and Device Technology

Developing New Concept and Technology

Microwave
Detection
Technology and
System

Optical Payload
Technology and
system

Electromagnetic
Detection
technology and
System

Electronic
Devices

Global Satellite Data Receiving Station Network

Watching over Earth, Serving Science and Society

China Remote Sensing Satellite Ground Station (RSGS) has set up five satellite ground receiving stations, realizing real-time satellite observation data acquisition that cover the entire China's territory and 70% land area of Asia.



Remote Sensing Science and Digital Earth

Extending Our Knowledge of the Planet

Remote Sensing
Science

Digital Earth and
Global Spatial
Information
System

Quantitative
Remote Sensing
Information
Technology

Key Technologies
of Remote
Sensing Satellite
Applications

Remote Sensing
Application
Engineering
Technologies

Beidou Navigation and Positioning Technology

Contributing to Global Navigation Satellite System

Developing Key Technologies for BDS Navigation, Positioning and Timing

Promoting BDS Global Application

Conferences, Exhibitions, Science Popularization

International Research Center of Big Data for Sustainable Development Goals



Established on 6 Sep. 2021, the Center aims to provide a range of services essential for **addressing** the most **challenging problems** such as **lack of data** and **technology barriers** in the implementation of the **SDGs**, including data sharing, technology solutions, decision-making support, as well as capacity building for developing countries.

BIG DATA





International Exchange and Cooperation

Partnering with national and international organizations to promote S&T innovation, to accelerate application, to discover and demonstrate innovative uses and practical values, tackling global issues and serving SDGs.

Connecting AIR with the Rest of the World

AIR views international collaboration as an effective means to maximize global potential and resources to advance aerospace information science and tackle global issues.



International Platforms

AIR hosts international platforms including the International Centre on Space Technologies for Natural and Cultural Heritage (HIST) under the auspices of UNESCO, the International Society for Digital Earth (ISDE), the International Program Office for Integrated Research on Disaster Risk (IRDR), and the CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation (SDIM).



United Nations Educational, Scientific and Cultural Organization


International Centre on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO

To support implementation of the World Heritage Convention with space technologies.



International Society for Digital Earth

To benefit society by promoting the development and realization of Digital Earth.



IRDR

Integrated Research on Disaster Risk

Integrated research on disaster risk for resilient and sustainable societies.



SDIM

To strengthen capacities for disaster risk reduction in developing countries with space technology.



International Science Programs

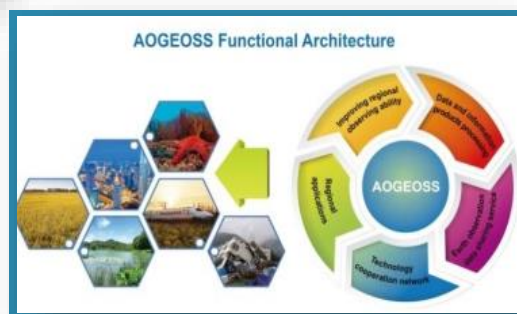


Digital Belt & Road Program (DBAR) supports sustainable development with Big Earth Data

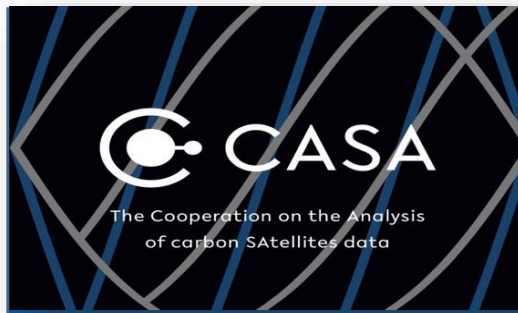
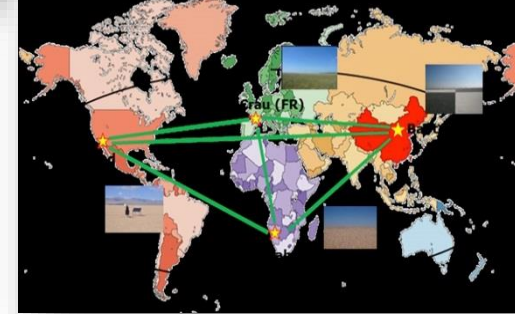


CropWatch participates in the GEO/GEOSS Global Agricultural Monitoring

AOGEOSS supports regional sustainable development with earth observation technology.



Baotou Site as international demonstration site of Radiometric Calibration Network



The Cooperation on the Analysis of carbon SAtellites data (CASA)



Space Technologies for Sustainable Development Goals



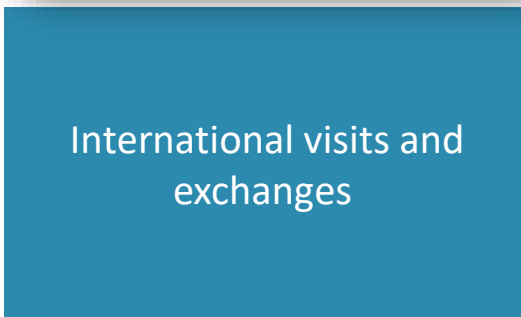
International Exchange



Launching academic conferences



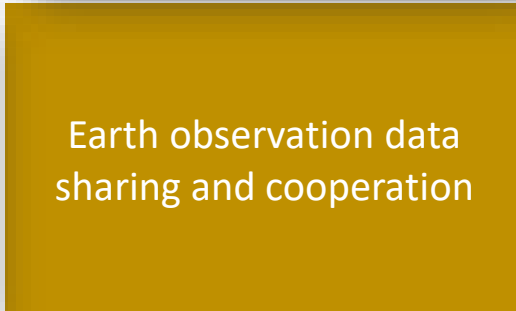
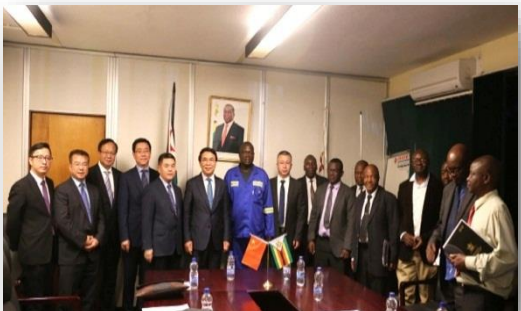
Organizing training courses and workshops



International visits and exchanges



Partnering with International organizations, research agencies and universities



Earth observation data sharing and cooperation



Visiting scholars and international students



International Journals

AIR hosts international journals such as the *International Journal of Digital Earth*, *Microsystems & Nanoengineering*, *Big Earth Data*, *Satellite Navigation* and *Journal of Remote Sensing*.





Thank you!

**Aerospace Information Research Institute (AIR)
Chinese Academy of Sciences (CAS)**

No.9 Dengzhuang South Road, Haidian District,
Beijing 100094, China

international@aircas.ac.cn

www.aircas.ac.cn