

Geoinformatics for DRR

Activities of Geoinformatics Center

Asian Institute of Technology

Lal Samarakoon

Director, Geoinformatics Centre

Asian Institute of Technology, Thailand

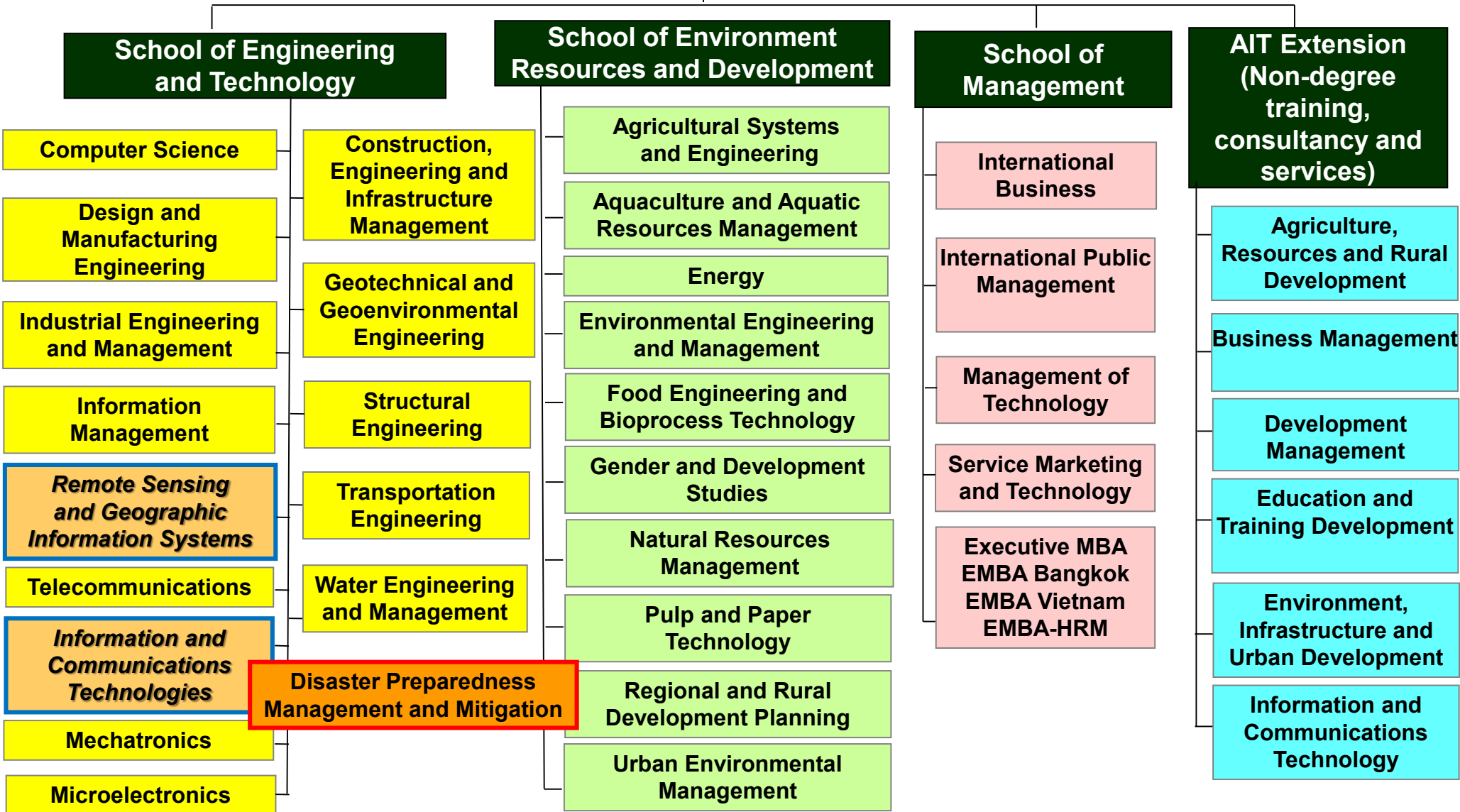
Content of Presentation

- Postgraduate Education in Space Technology and Disaster Management on AIT
- International Charter, Sentinel Asia and collaboration with AIT
- Capacity Building Activities of GIC in the area of space based technologies for DRR
- Summary



- ✓ Graduate Institute Establish in 1959
- ✓ Autonomous Regional Institute
- ✓ Strong network – people and agencies
- ✓ Multi disciplinary learning for multi culture society
- ✓ AIT Initiatives for funding agencies.

AIT Academic Structure



MSc at Asian Institute of Technology Disaster Preparedness Mitigation & Management

The new academic program Disaster Preparedness, Mitigation and Management (DPMM) complements other programs and/or disciplines with the aim of instilling the necessary interdisciplinary capacities in people on the front lines of disaster response and preparedness.

Expected Achievement of students

- Have a profound scientific understanding of disasters
- Be able to assess risks using appropriate tools and techniques
- Be able to develop disaster management plans
- Be capable of applying suitable measures to mitigate risks
- Possess the skills necessary for handling complex emergency situations
- Be able to communicate with various stakeholders and policy makers on issues associated with disaster preparedness, mitigation and management

There are at least 16 core courses designed to accommodate and have applicants with engineering, architecture, natural and social science, as well as management backgrounds.

Engineering & Technology

- Tsunami Science & Preparedness
- Mitigation of Earthquake Disasters
- Floods & Droughts
- Georisk Engineering
- Climate Forecasting & Early Warning Systems
- Energy Technologies for Disaster Management
- Remote Sensing & GIS for Disaster Mitigation
- Geospatial Technology for Disaster Risk Mapping

Management

- Community Based Disaster Risk Management
- Coastal Resiliency & Natural Disaster Preparedness
- Health and Ecological Risk Management
- EIA Framework for Disaster Management
- Planning & Implementation for Emergency Management
- Human Conflict & Humanitarian Emergency Management
- Disaster Management in Urban Environmental Planning



DPMM collaborates with more than ten regional and international partners, and currently works with many institutions, government agencies and other organizations.

Email: dpmm@ait.ac.th URL: <http://dpmm.ait.ac.th/>

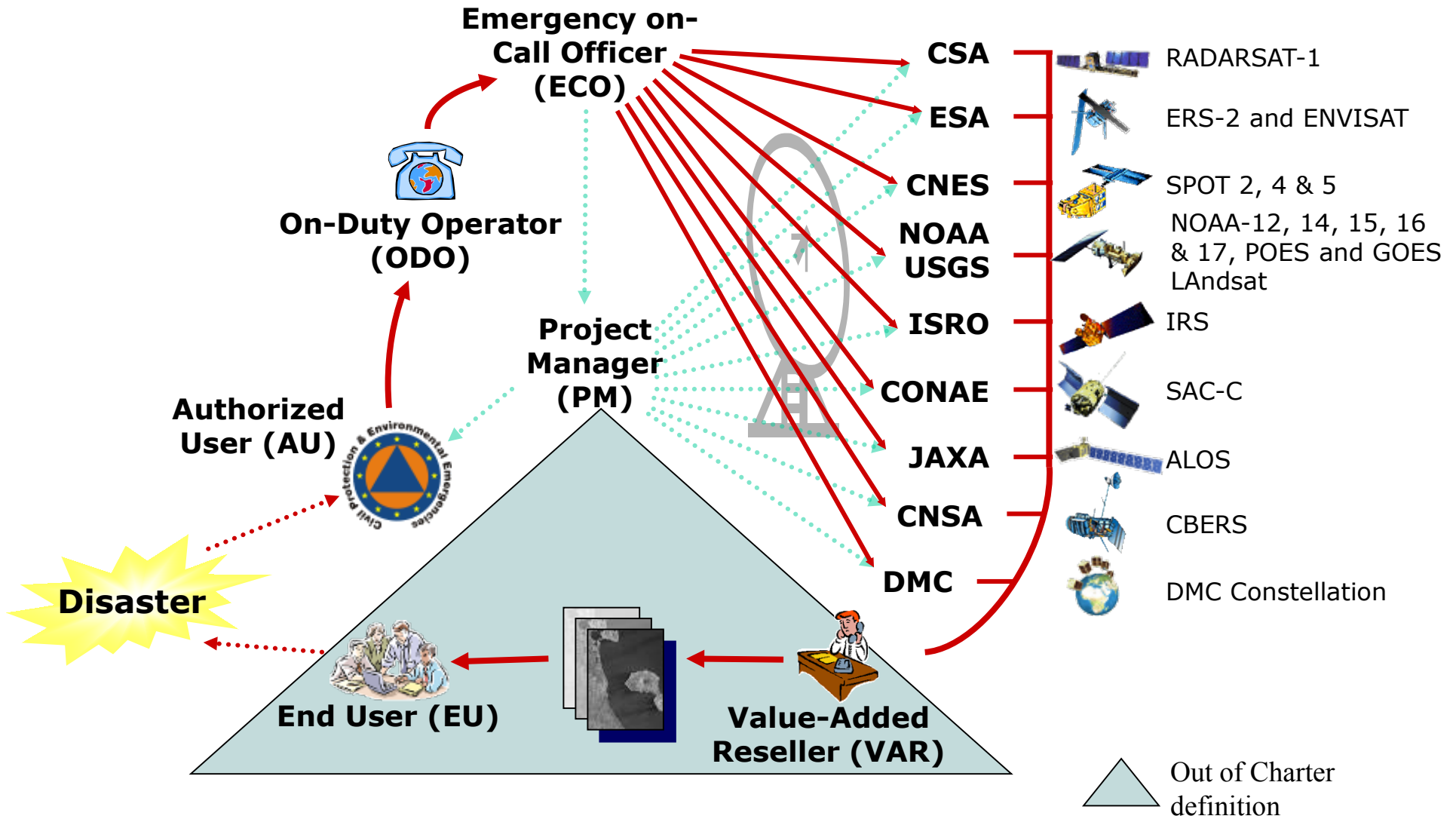
International Charter for Space Based Data for Major Disasters

- The Charter is an international cooperation between space agencies, making their resources available in emergency operations
- The Charter is a global mechanism to task satellites in emergency response situations, and to provide rush access to EO data in case of natural or man made disaster.

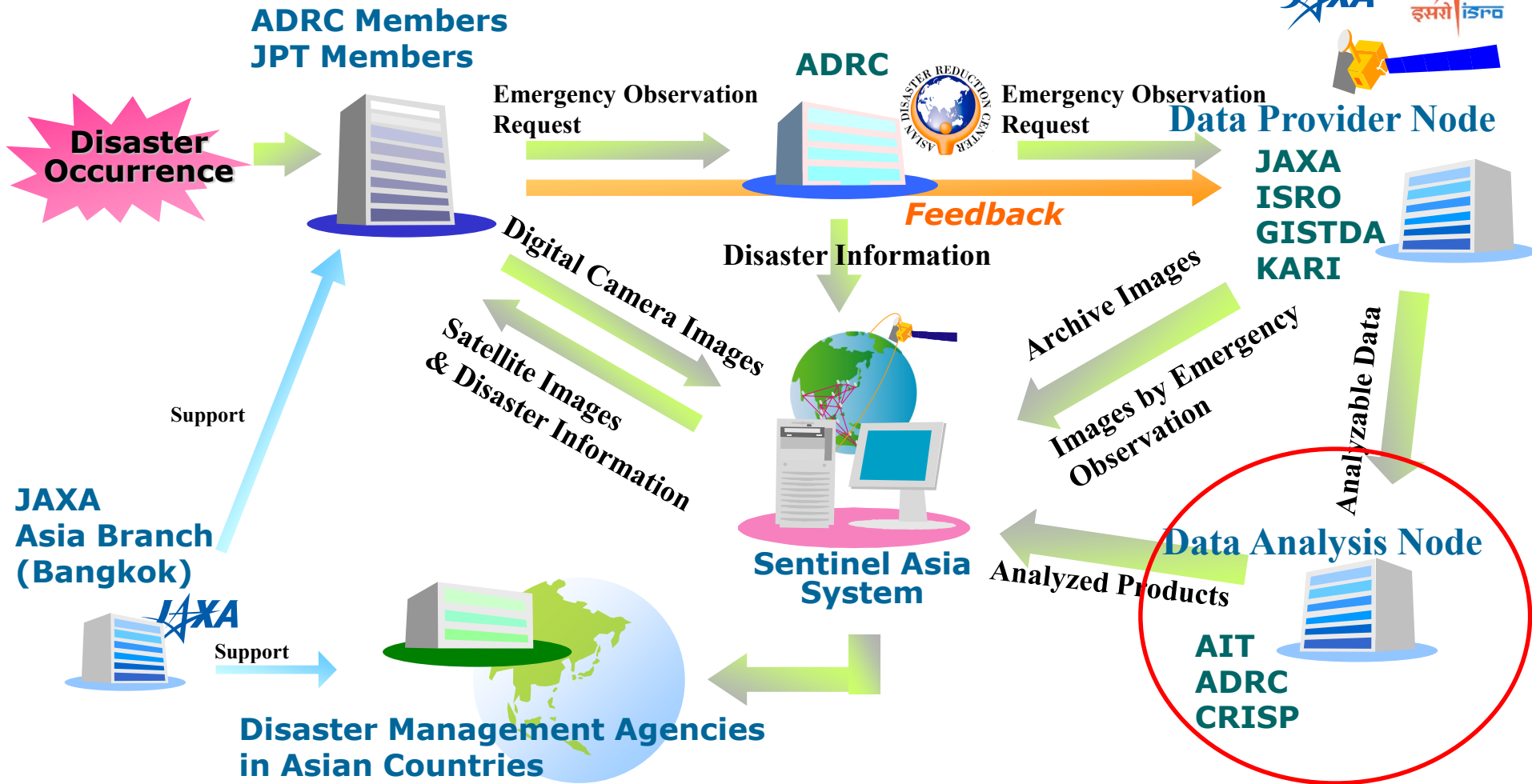
Sentinel Asia for Space Based Data for Natural Disaster in Asia-Pacific

- Sentinel Asia is a voluntary initiative by a collaboration between space agencies and disaster management agencies to assist disaster management in the Asia-Pacific region.
- The Charter is a Regional mechanism to task satellites in emergency response situations, and to provide rush access to EO data in case of natural disasters.

Flow of International Charter Operation



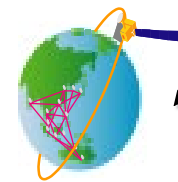
Flow of Sentinel Asia Operation



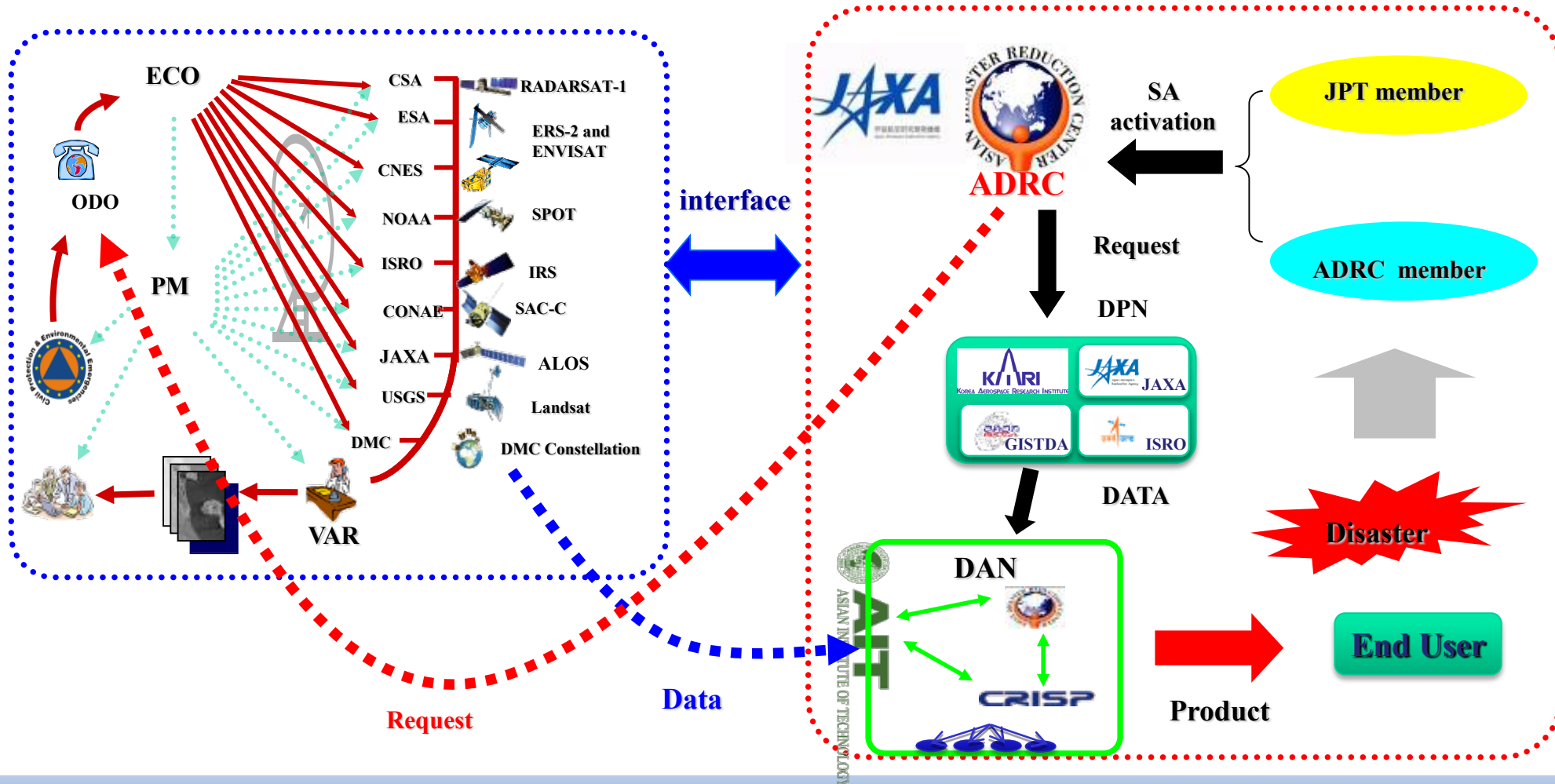
Interface between IDC and SA



International Charter



Sentinel Asia



Strengthening Local Agencies to use Space Based Technology for DRR

- *Use of Space Based Technology for DRR sponsored by Asian Disaster Reduction Center (ADRC)*
- *Application Oriented Technical Training (Mini-Projects) with the sponsorship of Japan Space Exploration Agency (JAXA)*
- *Short-term training collaborating ADPC and ITC*
- *Sentinel Asia System Usage (SAS)*
- *Product Generation for Emergency Response (SAS)*
- *MODIS data receiving, archiving, tools and research*

Use of Space Based Technology for DRR sponsored by Asian Disaster Reduction Center (ADRC)

Capacity Development in ASEAN Countries

Module 1: Needs Survey visiting each country (completed)

Module 2: Development of easy-reading material introducing GIS/GPS/RS and Application to DRR (Being done)

Module 3: 1-Day Seminar to increase awareness

Module 4: 5 Days Hands-on Training for product generation (case studies are under development)

Module 5: 2 Regional Conferences in Thailand and Indonesia

More Information: www.geoinfo.ait.ac.th/adrc

Mini-Project Training

Application oriented & Locally Selected projects at GIC-AIT (JAXA Sponsored). Conducted since 2004.

Target:

Advanced Capacity Development

Institutional Strengthening

Create services provider/user Interface

Develop Product Generation Capacity

Networking for Technology Transfer

More Information: www.geoinfo.ait.ac.th/training/miniproject.php

Mini-Projects - 2008-09

1. *Landslide related Risk Analysis – Bhutan (Geological Survey)*
2. *Land use mapping/flood – Cambodia (Ministry of Land)*
3. *Flood Mitigation – Bangladesh (SPARSSO/LGED/FFWC)*
4. *Drought Analysis and Global Warming – Philippines (PhilRice)*
5. *Drought Analysis – Mongolia (Remote Sensing Center)*
6. *Mangrove/coastal Monitoring – Malaysia (Fishery Dept.)*
7. *Risk due to Sea Level Rise – Sri Lanka (CCD/Survey Dept.)*
8. *Flood Risk mapping – Thailand (Irrigation Dept)*
9. *Forest Fire Risk Analysis – Indonesia (LAPAN)*
10. *Flood mitigation – Vietnam (STI, MONRE)*
11. *Flood Mitigation – Lao PDR (DMC and Hydrology Dept)*

Future of Geoinformatics Solutions through Sentinel Asia & International Activities

Comment: Members will continue to support Sentinel Asia and collaboration with international activities such as GEO, UN-SPIDER and International Charter

Comment: Mechanism to extend Sentinel Asia to Pre/Post-Disaster phase will be sought.

Comment: Continuity of Earth Observation satellite need to be promoted

Comment: Service of WINDS need to be continued with a suitable communication satellites. Mobile receiving facility during disaster would be desirable.

Comment: Need to integrate Sentinel Asia with other initiatives such as UNESCAP's regional Asia Pacific gateway to DRR to use socio-economic information, infrastructure information, community information etc. to enhance the benefit of Sentinel Asia in comprehensive DRR

Comment : Exchange of information system and the continuity of capacity building is desired

Thank you very much
www.geoinfo.ait.ac.th