Overview of Indian Space Programme

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ISRO: Objectives and Programmes

Objective Civilian use of space technology

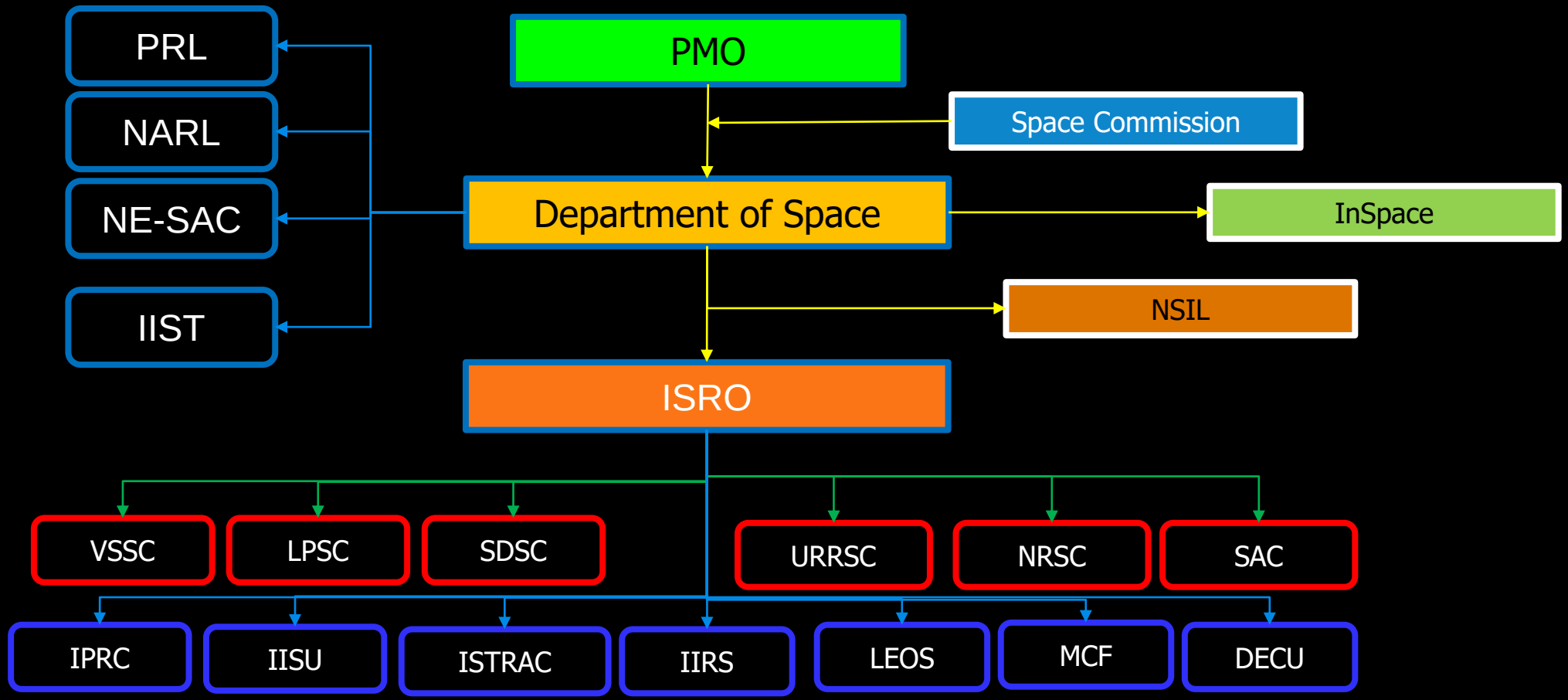
Self reliance

India is fully capable of running its own space program.

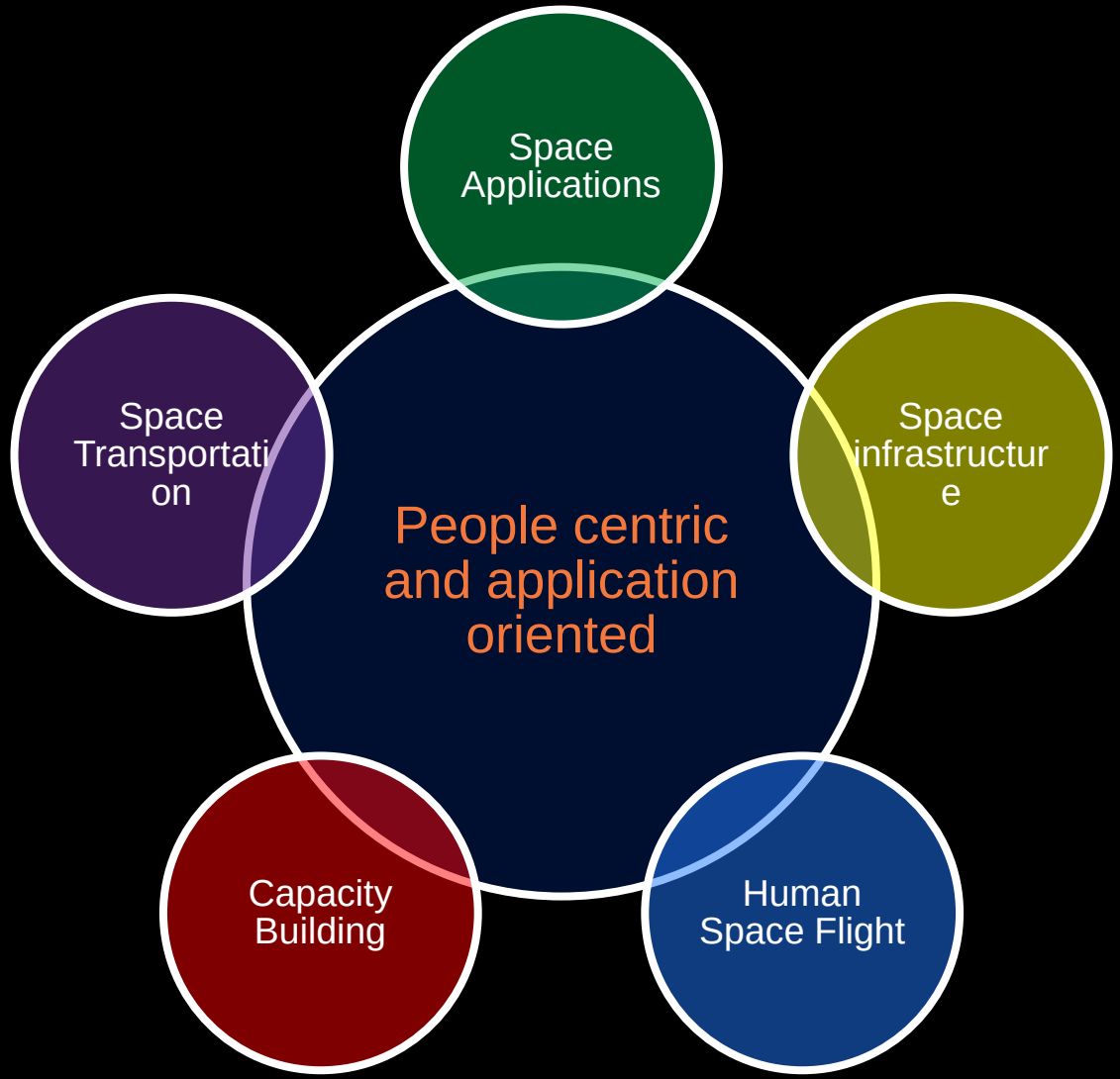
Advantages of space program

Timely information for many thematic applications i.e. from farmers to fishermen and other common citizens

ISRO Organization Chart



Dimensions of the Indian Space Program



भारतीय अंतरिक्ष कार्यक्रम- प्रमुख अंतरिक्ष कार्यक्रम

The objective of ISRO is to develop space technology and its application to various national tasks.
Indian Space Research Organisation (ISRO) has successfully operationalised following major satellite systems:

- Indian National Satellites (INSAT) & GSAT for communication services ;
- Indian Remote Sensing (IRS) & Cartosat satellites for management of natural resources and Disaster Management;
- Global Navigation Satellite System (Gagan & NavIC);
- Planetary Science (Chandrayan-1, MoM, Chandrayan-2, Astrosat etc)
- Human Space Flight Mission - Gaganyan

Launch Vehicles

Polar Satellite Launch Vehicle (PSLV) for launching IRS type satellites and Geostationary Satellite Launch Vehicle (GSLV) for launching INSAT type satellites.

India's current Space Assets

COMMUNICATION SATELLITES

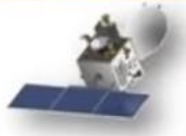
- INSAT & GSAT Series
  - Telecomm. & Broadcasting, VSAT Sevices, TV & DTH
  - Tele-education & Tele-medicine ; Search & Rescue

NAVIGATION SATELLITES

- NAVIC Constellation
  - Postion, Navig., Timing and Location Based Services
- GAGAN
  - Safety of Life Applications in Aviation sector

SPACE SCIENCE SATELLITES

MOM & ASTROSAT



EARTH OBSERVATION SATELLITES

- RESOURCESAT & CARTOSAT Series
  - Natural Resources & Disaster Mgmt ; Mapping
- INSAT 3D & 3DR ; MEGHA-TROPIQUES
  - Weather Forecasting; Atm. and Climate studies
- OCEANSAT-2 ; SARAL ; SCATSAT-1
  - Ocean State Forecast ; Ocean Altimetry, Wind Vector

114	84	13	2	342
Spacecraft Missions	Launch Missions**	Student Satellites	Re-entry Missions	Foreign Satellites***

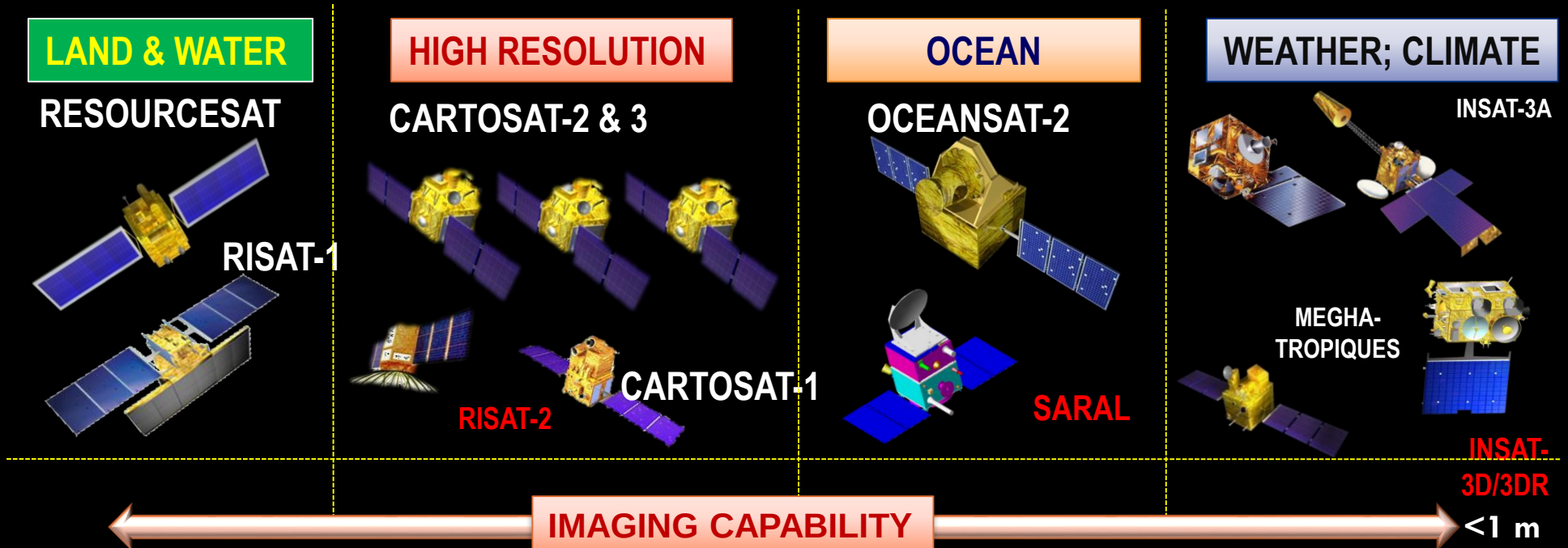
* Including 3 Nano Satellites, 1 Micro Satellite

** Including Scramjet-TD, RLV-TD and Crew Escape System

*** of 34 Countries

Indian Earth Observation Program

Vibrant Space Segment ⟷ **Strong Ground Mechanisms** → **Diversity of Applications**

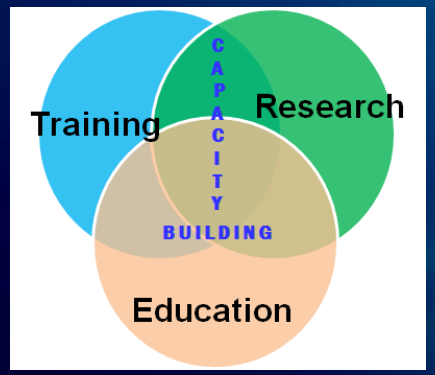


Indian Institute of Remote Sensing (IIRS)

www.iirs.gov.in

Welcome to India Institute of Remote Sensing, ISRO Dehradun

Capacity Building through training, education and research in the field of Remote Sensing, Geographic Information System (GIS) technology and applications.



EDUCATION FOR ACQUIRING KNOWLEDGE AND TRANSLATING THIS INTO PRACTICAL APPLICATIONS FOR SOLVING REAL-WORLD PROBLEMS

IIRS is one of the Central Educational Institutions of Excellence

[Parliament Act, 2006]

Activities

Training
(Currently - 96 participants in 17 courses)

- PG Diploma
- Certificate Courses
- Teachers (NNRMS)
- Decision Makers
- International MEA-ITEC
- **Customized Courses**
- Centre for Space Science & Technology Education in Asia & the Pacific

Education
(Currently – 68 participants in 3 courses)

- M.Tech.*
- M.Sc.**
- Ph.D.#

Research & Projects

- DOS Projects
- User Projects
- Technique Development Project

Outreach

- Distance Learning
- Academia Meets
- Internship (External Students)
- Contribution to National & Int. Professional Societies
- Workshops/ Conferences/ Seminars

*Affiliated to Andhra University, Visakhapatnam

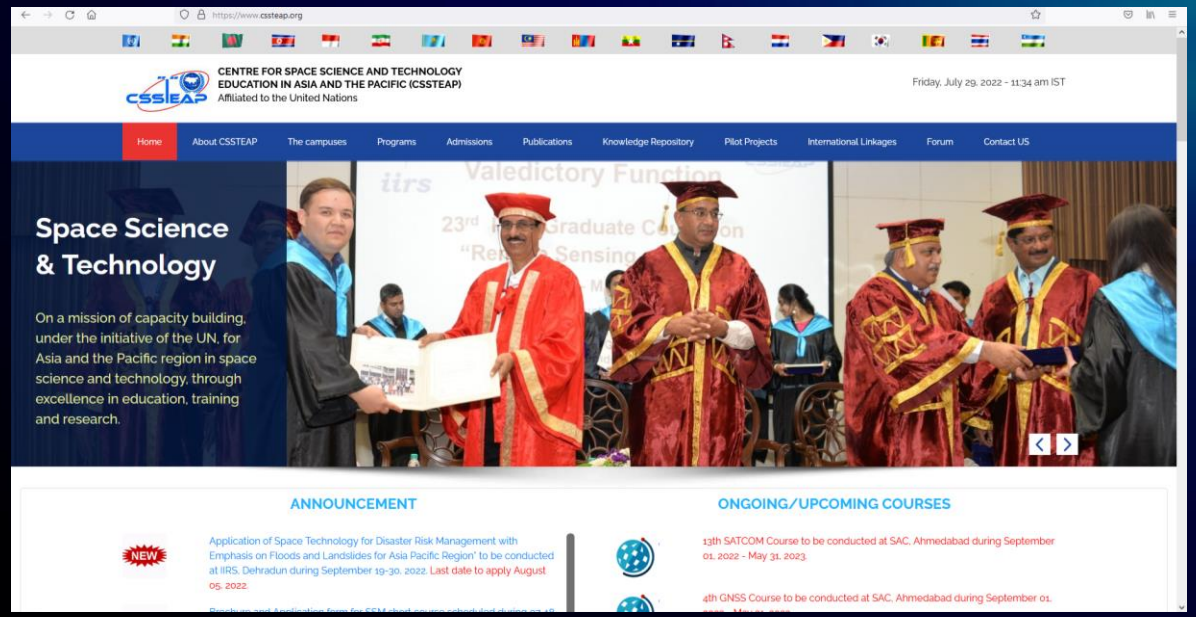
(New Affiliation with JNU is under progress)

** Affiliated to University of Twente, The Netherlands

#with Forest Research Institute, Doon University, Kumaun University & other institutes/universities

IIRS is a Host Institute of UN Centre CSSTEAP

Based on the report of the evaluation mission, UN-OOSA notified India as the host country for establishment of Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP) in 1994.



Mode of Online Courses & Learning Platforms

Two modes of capacity building for skill development in the area of Remote Sensing and Geospatial technologies and its applications:

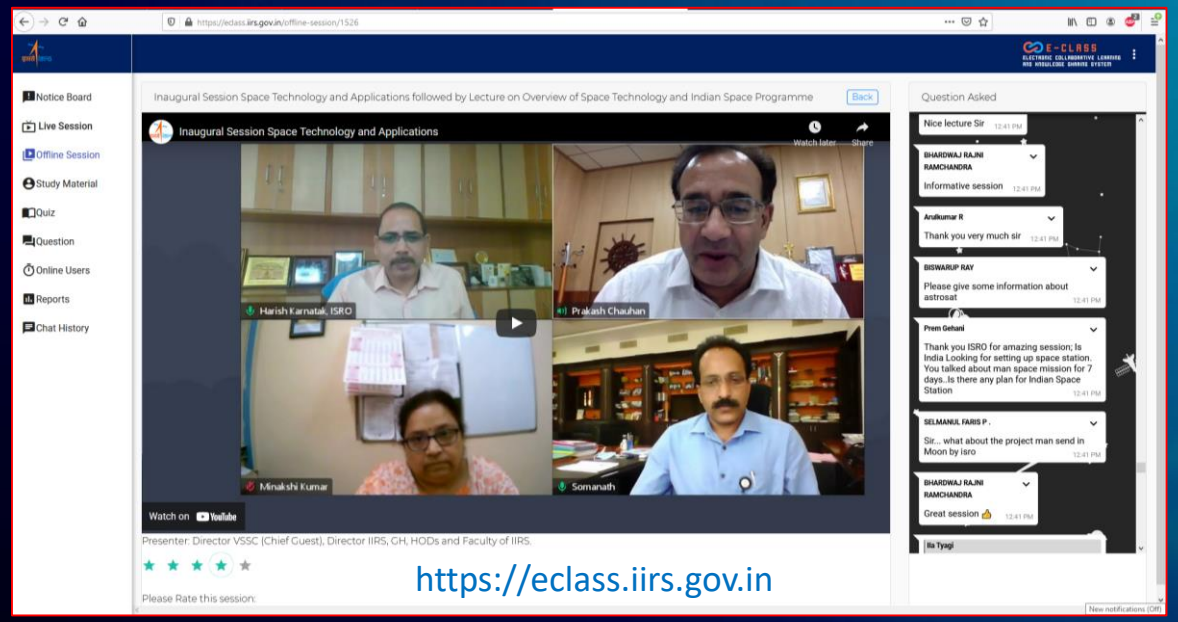
- Live and Interactive Classes; and
- Online E-learning Programme- MOOC

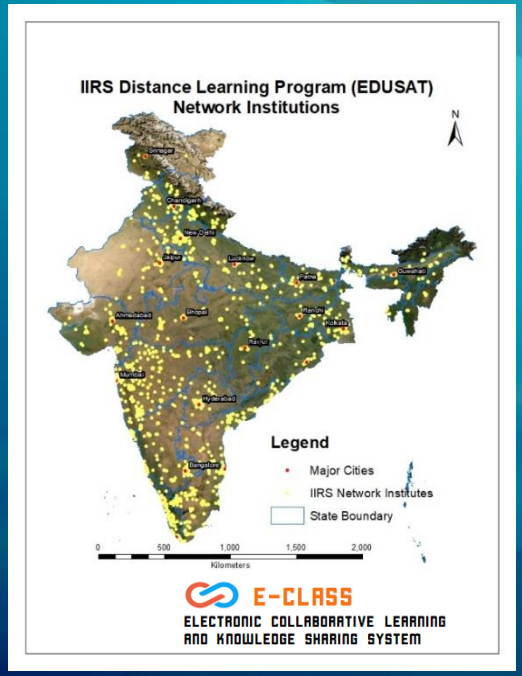
Software components- In house developed and Operational

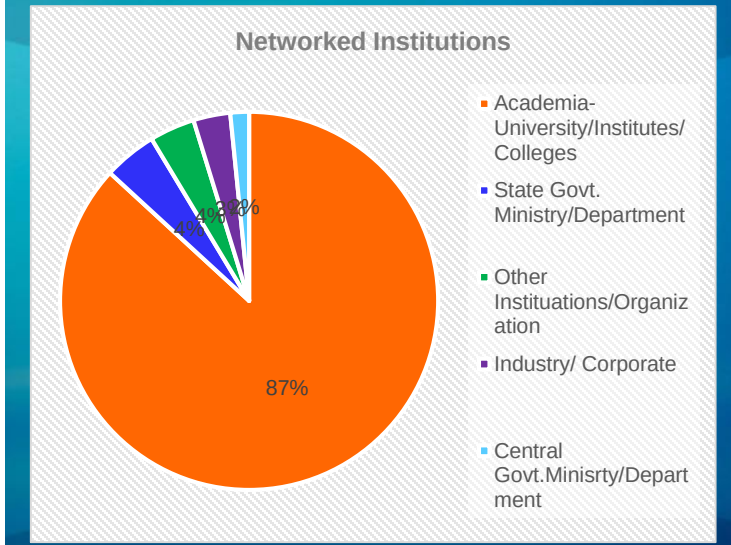
- Antriksha Jigyasa- ISRO STEM Programme- https://jigyasa.iirs.gov.in)
- E-CLASS- Live & Interactive sessions- https://eclass.iirs.gov.in
- ISAT Portal and its components- https://isat.iirs.gov.in- For International programmes

Currently 3201 institutions/ organisations in the country are currently networked with IIRS/ISRO

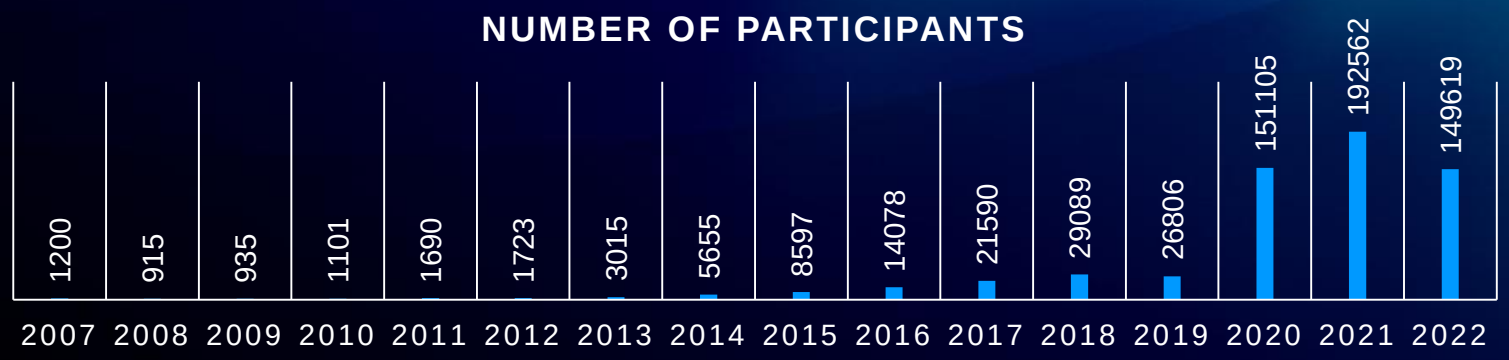
Major Achievements







IIRS Nodal Centers- 3201



Type	Total No.
Central Govt. Ministries/Dept.	77
Industry and Corporates	106
Others (NGOs/Start ups etc)	121
State Govt. Min/Dept.	131
Academia	2766

Total Beneficiaries -6,09,680

Thank You