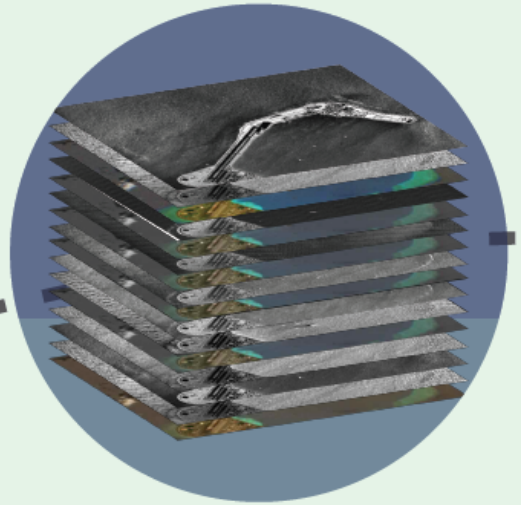
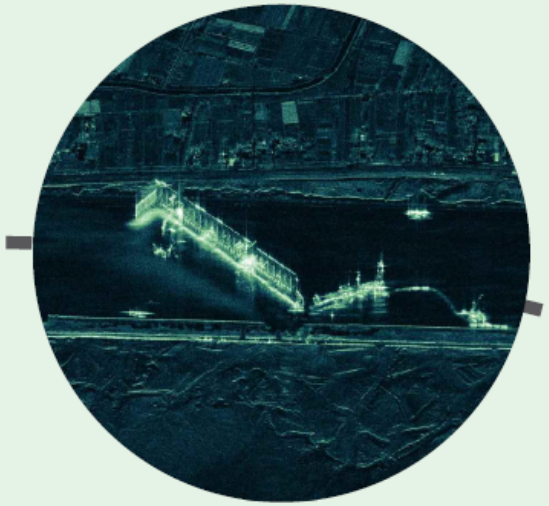
Geo-Enabling Our Education System

Krishanu Acharya
Co-Founder, Suhora, India

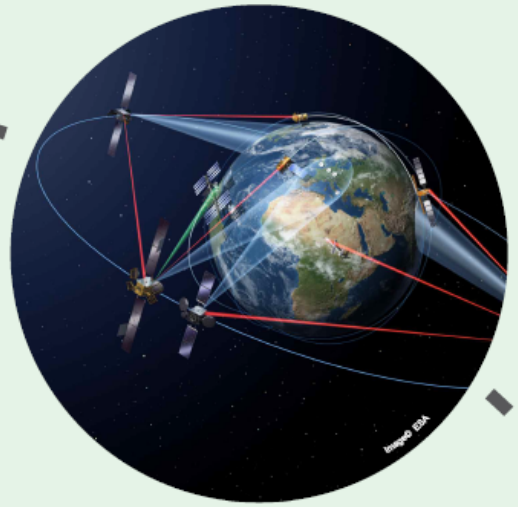
High Resolution



SAR & Optical



All Weather



Near Realtime

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Suhora Vision and Mission

Vision

Use Technology to create a Sustainable Planet.

Mission

To become leader in 3M (Monitoring, Mapping & Managing) of Assets using Space Technology, AI, Big Data and Strategic Technologies.

Importance of Geospatial Technology in SDGs

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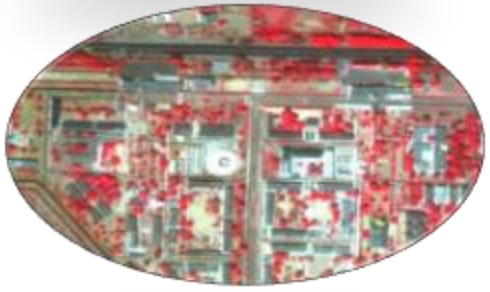
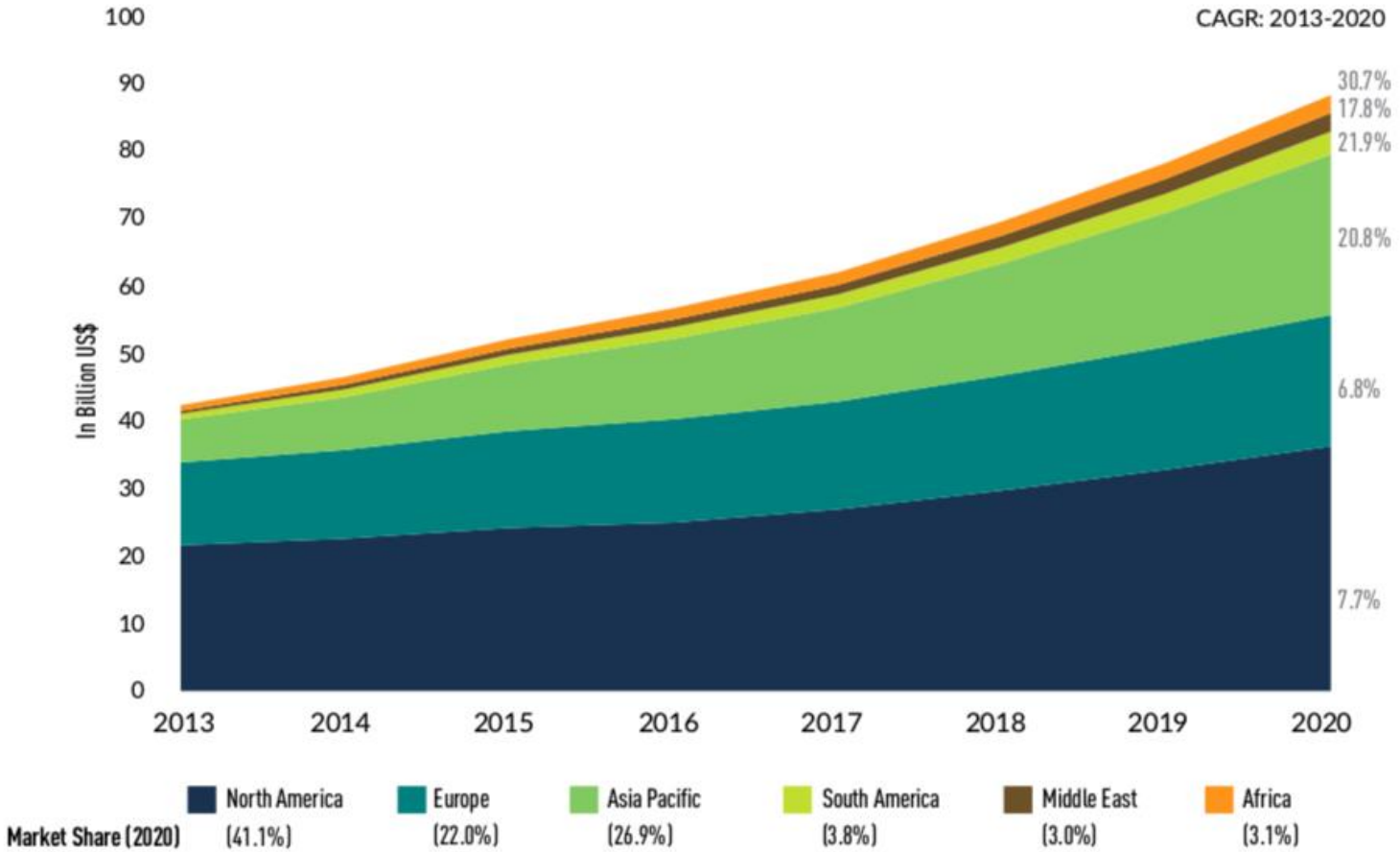
Much more than a system for capturing and organizing positional data

Adaptation of Spatial problem-solving approaches in development sectors like

- Infrastructure
- Urban planning and governance
- Planning, decision making and monitoring
- Mapping of health, school and other facilities
- Vulnerability assessment surveys in disaster prone areas
- Climate Change
- Hydrology
- National Security
- Agriculture
- Minning
- Power
- Communication



Growth in Geospatial Sector



Projected 33% increase in geospatial jobs (CAGR) in recent future

In India, it is expected to touch 10 lakh (1 million) jobs by 2025

(Strategies and Recommendations for National Geospatial and Earth Observation Industrial Development Policy)

Importance of Geospatial Education

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Current curriculum emphasize training on traditional techniques

- Spatial analysis
- Modeling

Recent trends in geospatial sectors demands on trending technologies

- Cloud computing
- Machine Learning
- statistical modeling
- Deep Learning logic
- IoT networking
- Big Data

Trending technologies generate requirement of different combined skillset

- Application programmers
- Analysts
- Data scientist
- Geo-web programmers
- Geo-AI experts
- SAR, LIDAR remote sensing experts

Statistical Survey on Skill Gap

Categories	% of professional agreed
Existing skill gap in current geospatial workforce	80%
Workforce not equipped to technology like AI & ML	52%
Companies not equipping with the digital age of AI and automation	44%

India & Developing Countries Context

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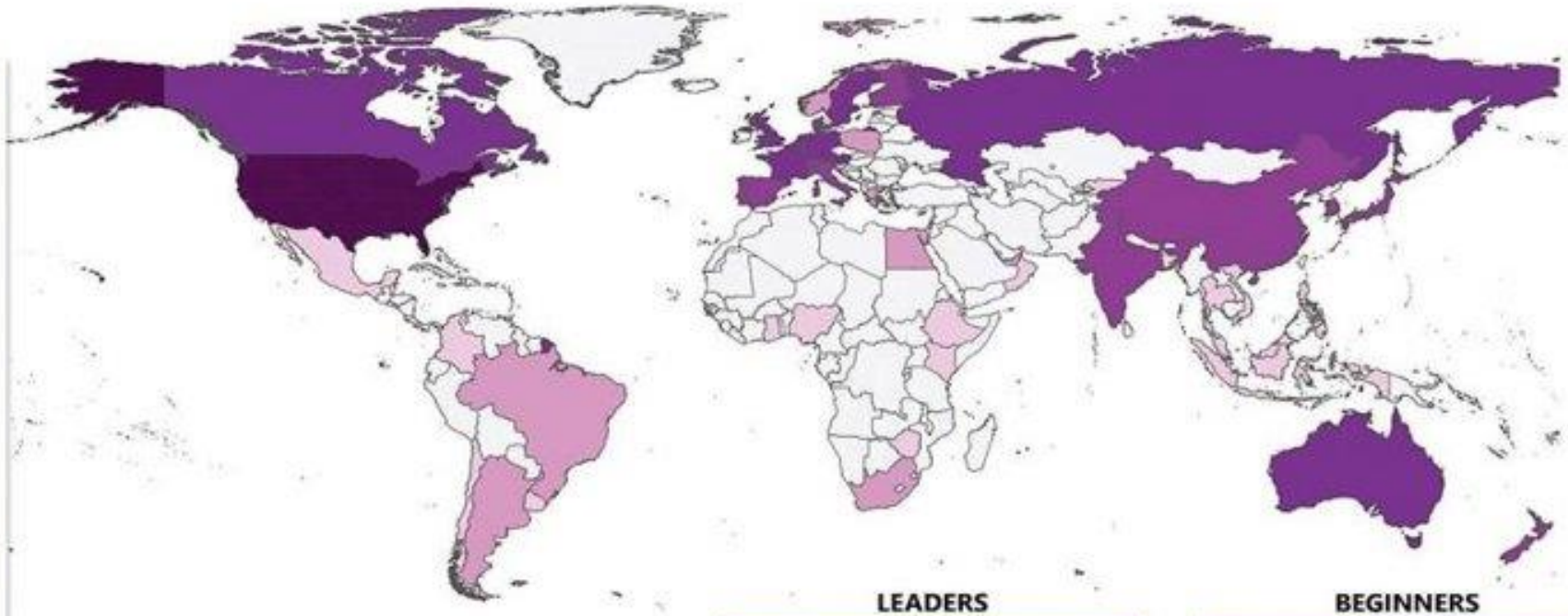
INSTITUTIONAL CAPACITY

https://www.geospatialworld.net/blogs/comprehensive-geospatial-education/



LEADERS		BEGINNERS	
United States	Rank 1	El Salvador	Rank 46
United Kingdom	Rank 2	Bangladesh	Rank 47
Germany	Rank 3	Vietnam	Rank 48
Canada	Rank 4	Kyrgyz Republic	Rank 49
Russia	Rank 5	Zimbabwe	Rank 50

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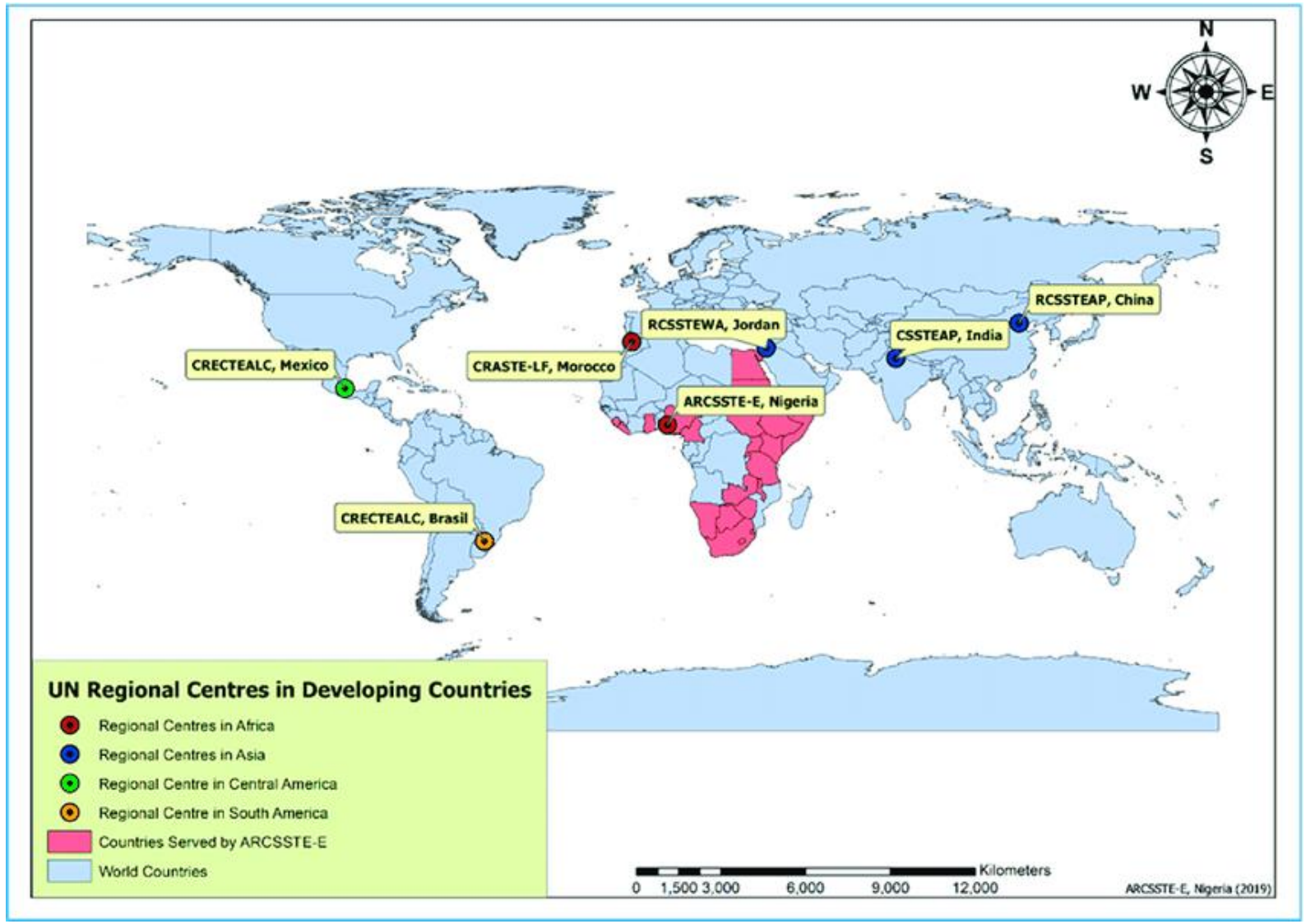
Program on Space Application



Awareness of geospatial education arisen through the efforts of the **Programme on Space Applications (PSA) of the United Nations Office for Outer Space Affairs (UNOOSA)**

Challenges in geospatial education

- Limited educational institutes are offering technical courses on geospatial and space based education
- Students are not getting proper in-hand training due to shortage of hard wards and soft wares.
- Course in not bridging the gap between academic curriculum and industrial objectives.
- Lack of reliable base data
- Awareness of open source data
- Awareness of open source software
- Lack of realistic training module

Comparison with Developed Countries

Recent trends in geospatial education in developed countries as per the current demand in geospatial sectors

- Big data analyst for data democratization
- Developer, processor and analyzers for IoT Sensors
- Popularizing cloud data hosting and processing
- AI/ML experts
- Expertise in wireless and web networks

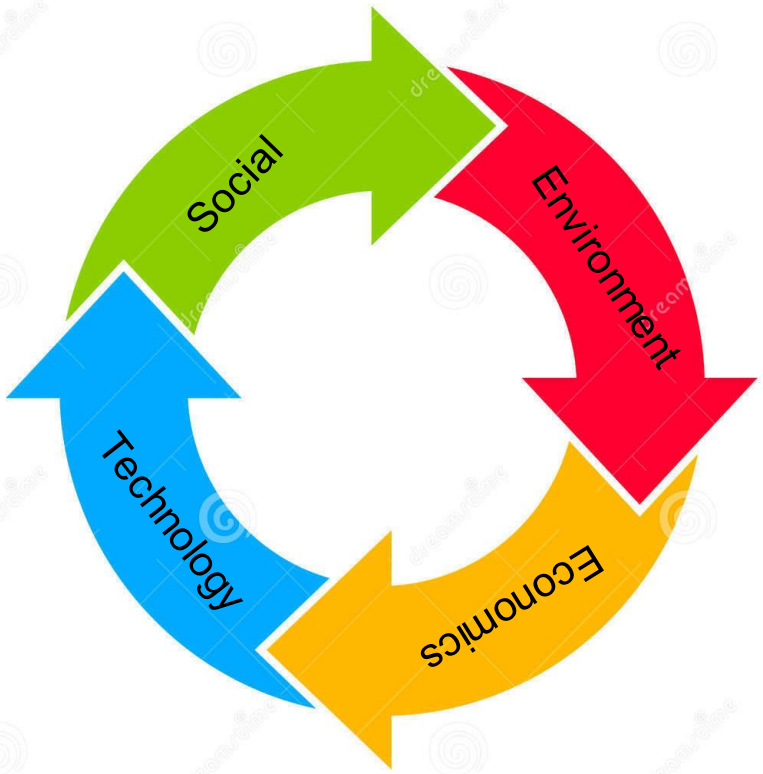
Global Distribution of Artificial Intelligence Talent

(Shuai, 2019)

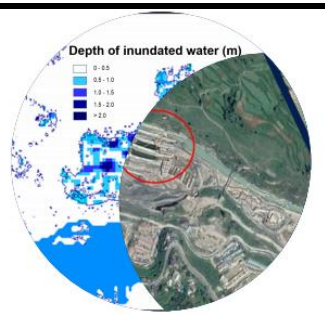
How to bridge the gap?

- Webinars
- Workshops and trainings
- Massive Online Open Courses
- Teacher's guides
- Fellowships
- Curriculum
- Partnership creation

Suhora's Focus towards SDG

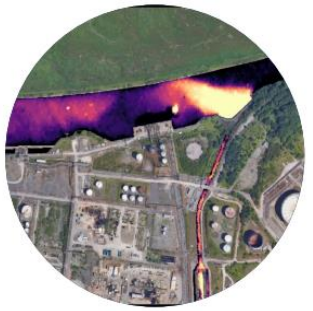


Committed to the Sustainable Development Goals and balancing Geospatial ecosystem

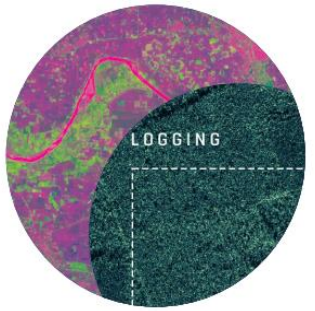


Disaster

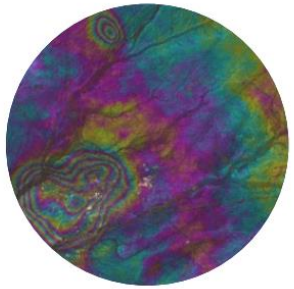
Air Pollution



Water Pollution



Forest / Agriculture



Oil Field/Infrastructure

Urban Heat Island

Role of Suhora in Creating a Geo-enabled Skillset

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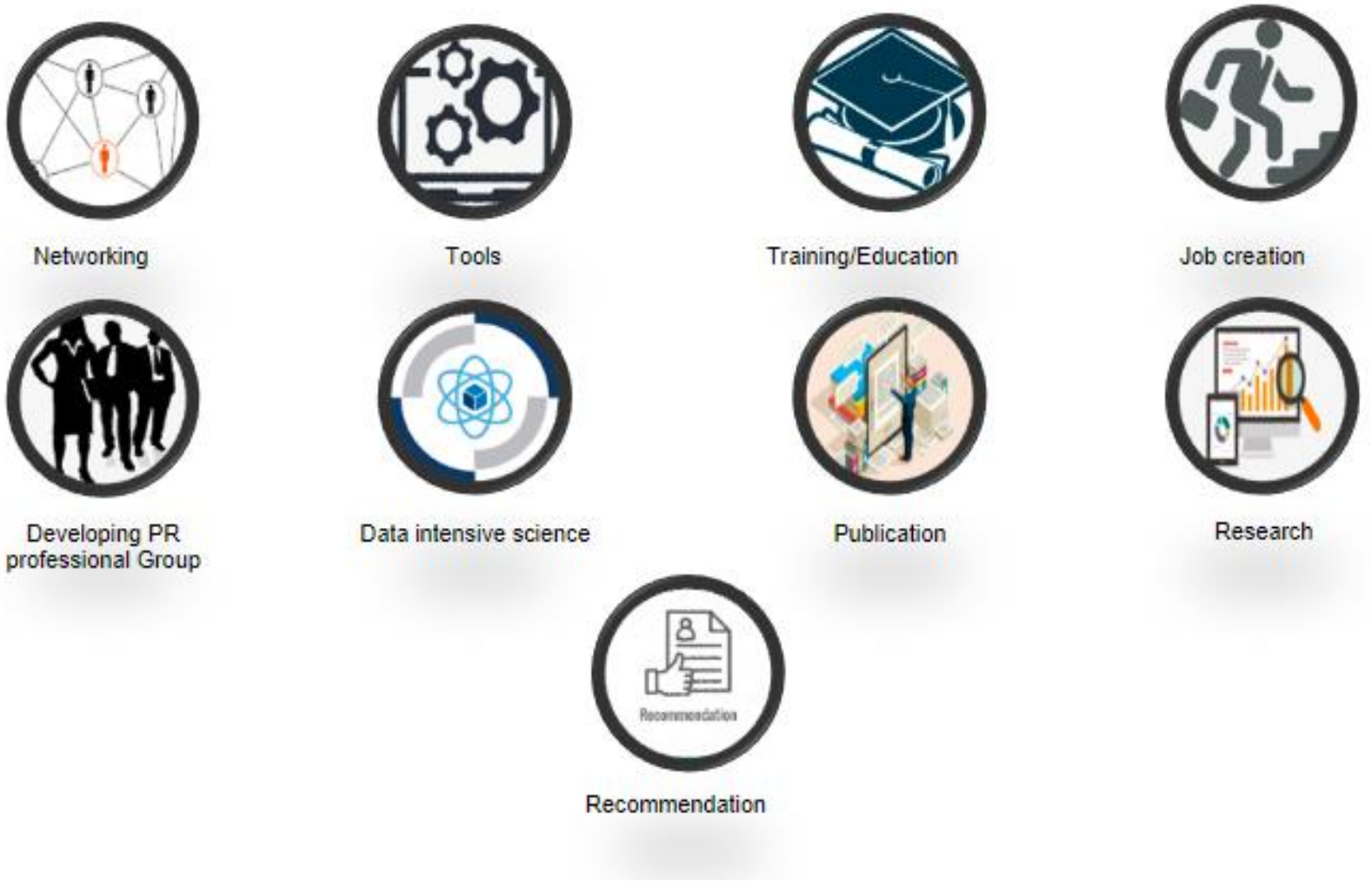
SUHORA's Initiative for Geospatial Education



Open Data Hub

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What is different?

Institutes/Organizations can access commercial satellite data for training and research purposes for requested time frame.

Data Hub contains

High resolution SAR data (spatial/temporal)
High resolution optical data (spatial/temporal)
High terrain model

Role of Suhora in Creating a Geo-enabled Skillset

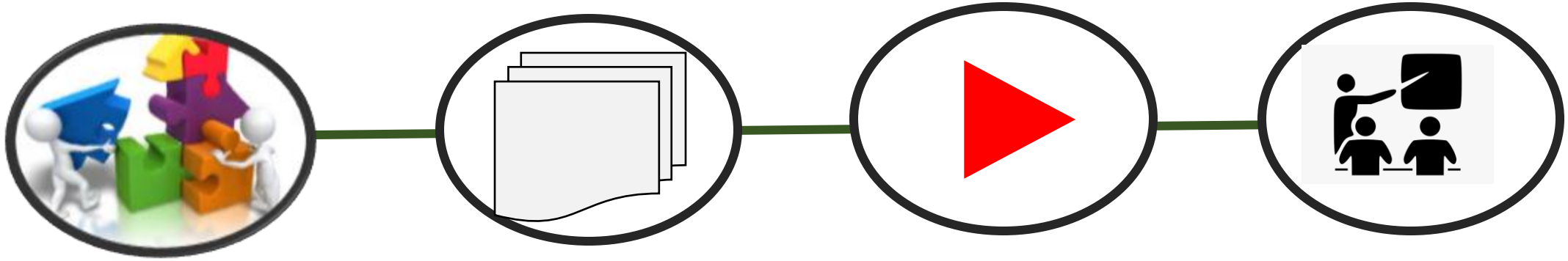
Training of GIS and Remote sensing open software

- QGIS
- GRASS
- SAGA
- Orfeo Toolbox
- GEOSERVER
- LEAFLET
- MultiSpce
- GvSIG
- Sentinel Toolbox
- GDAL

Role of Suhora in Creating a Geo-enabled Skillset

Suhora toward developing advanced geospatial skillset

- Supporting the development needs of students, institutions and other agencies in the area of geo-spatial courses
- A Open Data Hub for data intensive education
- Technical training videos – conceptual and realistic
- Enabling TOT activities in Kenya and Greater Africa.



How to Register

Please fill the registration form: https://forms.gle/jwCShxh8NK4kMUKWA

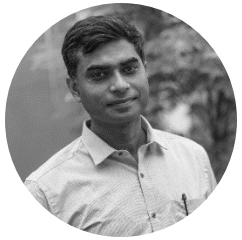
- Select the service you want to have
- Describe in few words
- Provide some mandatory inputs to contact you back

The registration link is active. We'll revert with the next steps.

Proposed Goal and Target Area

Drive **awareness** and **engagement** with youth and other publics aspiring to learn and participate **in space-related activities** that are in the context of opportunities especially for **Africa and other developing countries** in the emerging new space economy.

Team Suhora thanks you..



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