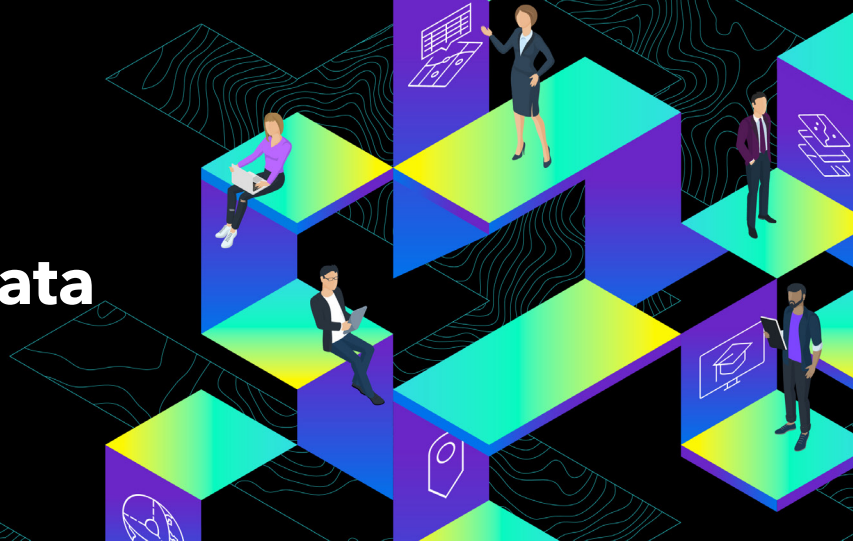


New Geospatial Data Guidelines

A golden opportunity for the education sector



By imparting learning, generating knowledge, and fostering innovation, India's education sector has been playing a vital role in shaping India story. Cutting across the disciplines geospatial technologies have always been subject agnostic. Be it sciences, engineering, management, commerce or humanities, geospatial technologies are powerful tools to demystify the learning process for faculty and students alike. By fostering understanding in space and promoting contextual thinking, geospatial sciences have always come to aid of academia in solving complex problems innovatively.

Be it defence, infrastructure, agriculture, transportation, BFSI, retail, supply chain, natural resources, mining, environment, or social sector, each of these sectors rely heavily on geospatial infrastructure for their success. Behind the scenes are geospatial professionals who are instrumental in geo-enabling these sectors. And it is the academia that has been shaping these professionals in the classrooms.

Teaching geospatial has never been about books and classroom, it is spatial thinking and making sense with data in the context of geography that makes it complete. Restrictions on geospatial data have limited this pedagogical component for last many years.

Recently announced guidelines for "liberalisation of acquisition and production of geospatial data and geospatial data services including maps in the country" is a shot in the arm for the education sector. By providing freedom to contextualize location, these reforms clubbed with the new National Education Policy (NEP) offer immense potential to foster spatial thinking in the young minds and play a defining role in achieving India's vision of Atmanirbhar Bharat.

With restrictions and limited access to geospatial

data, for long, academia and research have suffered silently and yet tried to deliver their best within the constraints they operated under. According to Dr. A. P. Sastri, Professor & Head, Department of CSE, PSCMR College of Engineering and Technology, Vijayawada *"The major roadblock has been in getting access to geospatial data and this imposed a challenge for the educational institutions to carry out the interdisciplinary analytical projects."*



Freedom to collect, generate, prepare, disseminate, store, publish, update, and digitize geospatial data sets the stage for long awaited geospatial emergence. According to Prof. B. Srinagesh of Osmania University *"With the New Geospatial Policy, many opportunities have been unleashed. Anyone can create and recreate maps. It gives a lot of employment opportunities; it also helps in developmental activities and better decision making."*



Prof. B. H. Aithal of IIT, Kharagpur says *"NEP 2020 envisions the technology as aspects of learning and geospatial data is the one tech that can help all other technology to be specialised. Geospatial data would open up more avenues that are challenging and help society in large."*



With easy access to geospatial data, it is a golden opportunity for the Indian academia to bring a paradigm shift in the society by fostering spatial thinking, further research in geospatial sciences and technology to promote innovation and create new avenues for businesses and employment in coming times. Prof. Aithal adds *"Geospatial learning would become a part of the course*

curriculum so that the data is easily handled and exposure to data handling, data modelling and data sharing would become more open, and it would lead to access and good research."



Mr. Agendra Kumar, Managing Director, Esri India says *"We are delighted with this development. As an organization for last many years, we have focussed on geo-enabling the educational institutions and fostering geospatial thinking as a part of their learning culture. But access to data had always limited our efforts. We are now hoping to have an enhanced engagement with educational institutions in helping them adopt geospatial technologies for their academics and research and bridge the academia-industry gap more effectively."*

Despite its numerous applications and opportunities, monetizing geo-data has always been challenging because of the restrictions. As a result, research and innovation at scale lacked in this area. With these new guidelines' academia can explore opportunities that data monetization offers in terms of building applications, solutions, and products. Dr. Sastri says, *"This will enable the rise of new technologies & platforms that will drive efficiencies in the domains of healthcare, agriculture, banking, and other allied sectors."* Academia now has multiple opportunities to incubate start-ups who can leverage location-intelligent data for solving problems faced by business and societies.

Government's digital initiatives have had a limited participation of the academia over last many years. These new guidelines make it possible for the academia to actively contribute through research and innovation. Ar. Prof. S. K. Sharma, Associate Professor, RR School of Architecture And Town Planning, Lucknow says, *"As India is now more focused on the infrastructural development, through this liberalization the research institutes involved in master planning and execution of city, smart city, villages will get more precise and accurate spatial data and be able to meet the international standards."*



Democratization of geospatial data opens doors for accelerating adoption of geospatial

technologies by the Micro, Small and Medium Enterprises (MSMEs) by contextualizing their subjects to improve their operational efficiencies and enhance their offerings and services. There is a large untapped potential for the academia to collaborate and innovate with these sectors.

With a projected demand of 10 lakh geospatial workforce by 2025, academia has a huge challenge on its hand to meet this demand with trained, industry ready professionals. These reforms offer numerous opportunities for the Indian academia to shape the future of world's knowledge based geospatial economy while helping students to lay a strong foundation for their careers and ambitions in decades to come.

Mr. Agendra Kumar of Esri India adds *"To achieve global standards, it is important that a state-of-art geospatial infrastructure is available for the institutions to harness this data. It is our strong desire that every student across the country has access to latest geospatial infrastructure during their education."* He further adds *"To augment classroom learning, Esri India offers various e-learning options tailored to different levels and their learning objectives. Our Learn ArcGIS program is designed for self-study and available at no-cost with 100+ learning modules. Through Esri Academy and Institutional Agreements (IA), we offer advanced learning experience, and MOOC's covering diverse range of topics. All these are easily accessible to the faculty, researchers, and students with a convenience to unravel the mystique of geospatial technologies, anytime, anywhere."*

India is faced with complex socio-economic-environmental challenges, which have always intrigued the faculty, researchers, and students alike. By now it is well acknowledged that such challenges are best solved by harnessing "science of where". By thinking out of the box, it is time for academia to harness all the available resources to build a knowledge culture by fostering critical thinking, innovation and contextual problem solving in the classrooms. This will ensure that geo-professionals of tomorrow are well equipped to meet the emerging challenges of digital revolution.