

EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

Author: Dr. Mukund Kadursrinivas Rao
India, mukund.k.rao@gmail.com

Mr. K.R. Sridhara Murthi
NIAS, India, krsmurthy09@gmail.com
Dr. R Sivakumar
Department of Science and Technology(DST), India, siva_k@nic.in
Dr. Shailesh Nayak
India, secretary@moes.gov.in
Dr. T Ramasami
Department of Science and Technology(DST), India, dstsec@nic.in

INDIA'S VISION FOR NATIONAL GIS (BASED ON EO, POSITIONING, SURVEY AND MAPS,
VIRTUAL GI, GEO-TAGGED DATA)**Abstract**

India has an advanced national capacity in Earth Observation (EO) and also has a vast nation-wide imagery data base at different spatial resolutions; enjoys a good survey capability with topographic maps available for the entire country and is acknowledged for her capacity to design and develop Information Technology (IT) solutions for various applications and services. All these capabilities have powered effective utilisation of EO images, multi-layer thematic maps at national level in important GIS projects – providing a good GIS knowledge base.

As a next step, the vision of National GIS has been un-folded - consisting of a nation-wide, large-scale, maintained GIS Asset, including EO images, and GIS Decision Support System that would be one of the core component of India's governance, planning and thus support the national development process. The National GIS is envisioned as a critical infrastructure providing GIS support to many aspects of the national economic and governance process that would benefit the nation.

India has recognised that in today's transforming world, nations that will possess a sound and progressive system of GIS will lead and chart ways in their own national and in the international arena far ahead of those that would be dependent on other nation initiatives for their national needs.

Two of the 5 major elements of the National GIS are key – one, a National GIS Asset as an organised geo-database of EO images, satellite-based positioning data, digital maps, crowd-sourced data and geo-tagged attributes – all of these referenced and seamless as a GIS database that is constantly updated/maintained and served as “authoritative” data. Second, is the National GIS DSS applications – a suite of GIS Applications service for different ministries/departments in government that enables better and informed governance; citizens – that empowers them with geographical content; to private enterprises for commercial GIS application services and for academia for education/research activities.

An important “back-bone” of the National GIS vision is the availability of a national capability in satellite- and aerial- EO images/data, satellite-based positioning services and efficient GI data delivery systems, that will include satellite-based communication systems.

The paper outlines the justifications that led to the envisioning exercise and also will outline the Vision of India's National GIS - with key/specific examples of EO-images and map based GIS decision support examples of governance.