

Sub: Guidelines for acquiring and producing Geospatial Data and Geospatial Data Services including Maps

Preamble

Location information is an integral part of the modern digital ecosystem and critical for unlocking economic, social and environmental opportunities for sustainable growth and development of the country. It is critical to the success of modern industry offering location-based services such as e-Commerce, delivery and logistics and urban transport. It is also essential for more traditional sectors of the economy such as agriculture, construction and development and mines and minerals.

2. Geospatial data which includes location information are data about the natural or man-made, physical or imaginary features whether above the ground or below, boundaries, points of interest, natural phenomena, mobility data, weather patterns, statistical information, etc. There has been immense progress over the years in technology for capture of geospatial data through ground-based survey techniques, photogrammetry using manned/unmanned aerial vehicles, terrestrial vehicle mounted Mobile Mapping System, LIDAR, RADAR Interferometry, satellite-based remote sensing, mobile phone sensors and other techniques.

3. The Government of India acknowledges that the availability of comprehensive, highly accurate, granular and constantly updated representation of Geospatial Data will significantly benefit diverse sectors of the economy and will significantly boost innovation in the country and greatly enhance the preparedness of the country for emergency response.

Atmanirbhar Bharat

4. The availability of data and modern mapping technologies to Indian companies is also crucial for achieving India's policy aim of Atmanirbhar Bharat and the vision for a five trillion-dollar economy. India presently relies heavily on foreign resources for mapping technologies and services. Liberalisation of the mapping industry and democratization of existing datasets will spur domestic innovation and enable Indian companies to compete in the global mapping ecosystem by leveraging modern geospatial technologies. Locally available and locally relevant Maps and Geospatial Data would also help in improved planning and management of resources and better serve the specific needs of the Indian population.

5. Blue economy in India is another sunrise issue for development experts where Geospatial Data is expected to play a potentially important role. Fisheries, deep sea mining, and offshore oil and gas make up a large section of India's blue economy. The Sagarmala project, launched by the Government of India, is the strategic initiative for port-led development. India will soon launch an ambitious 'Deep Ocean Mission' that envisages exploration of minerals, energy and marine diversity of the underwater world, a vast part of which still remains unexplored.

Bathymetric Geospatial Data would be crucial for attainment of a flourishing and vibrant blue economy for the country and would require active participation of private sector in acquisition and their use apart from traditional agencies like Navy, etc.

6. With the advent of publicly available geospatial services, a lot of Geospatial Data that used to be in restricted zone are freely and commonly available now and some of the policies/guidelines that used to regulate such information have been rendered obsolete and redundant. What is readily available globally does not need to be regulated.

Definitions:

7. (a) Positional data: Latitude, longitude and elevation/depth of a point or its x, y & z co-ordinates in the territory of the Republic of India.
- (b) Attribute data: Any data that when associated with Positional Data gives any additional meaning to it.
- (c) Geospatial Data: Positional data with or without attribute data tagged, whether in the form of images, videos, vector, voxel and/or raster datasets or any other type of geospatial dataset in digitized or non-digitized form or web-services.
- (d) Map: Symbolic representation of real-world objects, regions or themes on a given scale which was generally published in paper form but now also available as web-map-service.
- (e) Geospatial Technology: Any technology including but not limited to Aerial / UAV Photogrammetry, Aerial / UAV LIDAR, drones, Radar Interferometry, street view or by other means of ground survey, satellite-based remote sensing techniques, AI, underwater mapping, and others.
- (f) Indian Entity: Any Indian citizen, Government entities, Societies registered under applicable statutes, statutory bodies, Autonomous Institutions of the Government, or any Indian company or Indian LLP owned by resident Indian citizens or any Indian company or Indian LLP controlled by resident Indian citizens (as defined in the Explanation to Rule 23 of the Foreign Exchange Management (Non-Debt Instrument) Rules, 2019).

Liberalisation of acquisition and production of geospatial data and geospatial data services including maps:

8. Accordingly, the following guidelines on acquiring and producing geospatial data and geospatial data services are issued in supersession of anything to the contrary on the subject issued from time to time by Department of Science and Technology (DST), Ministry of Defense (MoD) and/or any other Department of Government of India vide their various official memoranda and guidelines. The Guidelines issued by DST on Geospatial Data and Maps would be the single point reference on the subject.

- i. These guidelines will be applicable to Geospatial Data, Maps, products, solutions and services offered by government agencies, autonomous

bodies, academic and research institutions, private organizations, Non-Governmental Organizations and individuals.

- ii. (1) Save as specifically provided for under these guidelines, there shall be no requirement for prior approval, security clearance, license or any other restrictions on the collection, generation, preparation, dissemination, storage, publication, updating and/or digitization of Geospatial Data and Maps within the territory of India. Individuals, companies, organizations, and Government agencies, shall be free to process the acquired Geospatial Data, build applications and develop solutions in relation to such data and use such data products, applications, solutions, etc by way of selling, distributing, sharing, swapping, disseminating, publishing, deprecating and destructing. Self-certification will be used to convey adherence to these guidelines.

(2) Nothing contained in these guidelines shall confer on any individual or an entity a right to physical access including through aerial/territorial water route to any establishment, installation or premises to which access is restricted by the Ministry/Department concerned as the owner of such premises.
- iii. (a) There shall be a negative list of sensitive attributes that would require regulation before anyone can acquire and/or use such attribute data. DST will notify this list on its website along with stipulated regulations after consultation with departments concerned.

(b) The negative lists mentioned above will be specific to very sensitive attributes and care would be taken so as to minimize restrictions in order to boost the Ease of Doing Business. The list may be regularly updated as required.

(c) DST will constitute a Geospatial Data Promotion and Development Committee with representations from relevant departments that would decide any issue arising out of finalization of negative attributes lists and the regulations proposed on those attributes. The Committee's mandate will include promotion of activities related to collection, generation, preparation, dissemination, storage, publication, updating and/or digitization of Geospatial Data.

Explanation:

- 1. There will not be any negative list of prohibited areas.
 - 2. The negative list of attributes will include attributes that shall not be marked on any Map i.e. no person or legal entity shall identify or associate any location on a Map with a prohibited attribute.
- iv. (a) For the purposes of these guidelines, the threshold value for:

1. On-site spatial accuracy shall be one meter for horizontal or Planimetry and three meters for vertical or Elevation.
 2. Gravity anomaly shall be 1 milli-gal.
 3. Vertical accuracy of Bathymetric data in Territorial Waters shall be 10 meters for up to 500 meters from the shore-line and 100 meters beyond that.
- (b) For the attributes in the negative list, different threshold values as well as regulations as warranted can be laid down. The thresholds shall be regularly reviewed and amended as necessary by DST.
- v. Indian Entities, whether in Government or outside, will be free to acquire, collect, generate, prepare, disseminate, store, share, publish, distribute, update, digitize and/or create Geospatial Data, including Maps, of any spatial accuracy within the territory of India including underwater within its territorial waters by using any Geospatial Technology, subject to regulations on attributes in the negative lists.
 - vi. (a) Ground truthing/verification, access to Indian ground stations and augmentation services for real time positioning (Continuously Operating Reference Stations (CORS), etc) and their data shall be made available without any restrictions and with the ease of access to Indian Entities only.

(b) Terrestrial Mobile Mapping survey, Street View survey and surveying in Indian territorial waters shall be permitted only for Indian Entities irrespective of accuracy.
 - vii. Maps/Geospatial Data of spatial accuracy/value finer than the threshold value can only be created and/or owned by Indian Entities and must be stored and processed in India.
 - viii. Foreign companies and foreign owned or controlled Indian companies can license from Indian Entities digital Maps/Geospatial Data of spatial accuracy/value finer than the threshold value only for the purpose of serving their customers in India. Access to such Maps/Geospatial Data shall only be made available through APIs that do not allow Maps/Geospatial Data to pass through Licensee Company or its servers. Re-use or resale of such map data by licensees shall be prohibited.
 - ix. Digital Maps/Geospatial Data of spatial accuracy/value up to the threshold value can be uploaded to the cloud but those with accuracy finer than the threshold value shall only be stored and processed on a domestic cloud or on servers physically located within territory of India.
 - x. There shall be no restriction on export of Maps/Geospatial Data of spatial accuracy/value up to the threshold value except for attributes in the negative lists. Department of Revenue, Government of India will make necessary amendments in GSR in this regard.

- xi. All Geospatial Data produced using public funds, except the classified geospatial data collected by security/law enforcement agencies, shall be made easily accessible for scientific, economic and developmental purposes to all Indian Entities and without any restrictions on their use. Such access shall be given free of any charges to Government agencies and at fair and transparent pricing to others. For attributes in the negative lists, appropriate regulations will be laid down separately. The Government of India shall encourage crowd sourcing efforts to build Maps by allocating public funds towards these efforts as appropriate.
- xii. The Survey of India (Sol) and other government agencies producing or owning Maps and Geospatial Data, shall take immediate measures to simplify procedures, revise/abolish various forms/licenses and use modern techniques such as cloud, open APIs and others to make its data accessible online in a useful format.
- xiii. For political Maps of India of any scale including national, state and other boundaries, Sol published maps or Sol digital boundary data are the standard to be used, which shall be made easily downloadable for free and their digital display and printing shall be permissible. Others may publish such maps that adhere to these standards.
- xiv. All citizens, companies, and organizations including Government agencies, producing Geospatial Data and information shall be encouraged to collaborate in mutually beneficial manner and work towards open-linked Geospatial Data. Government agencies will make all efforts to collaborate for acquiring Geospatial Data.
- xv. Any violation of these guidelines will be dealt with under the applicable laws.
