Geospatial Technology in India

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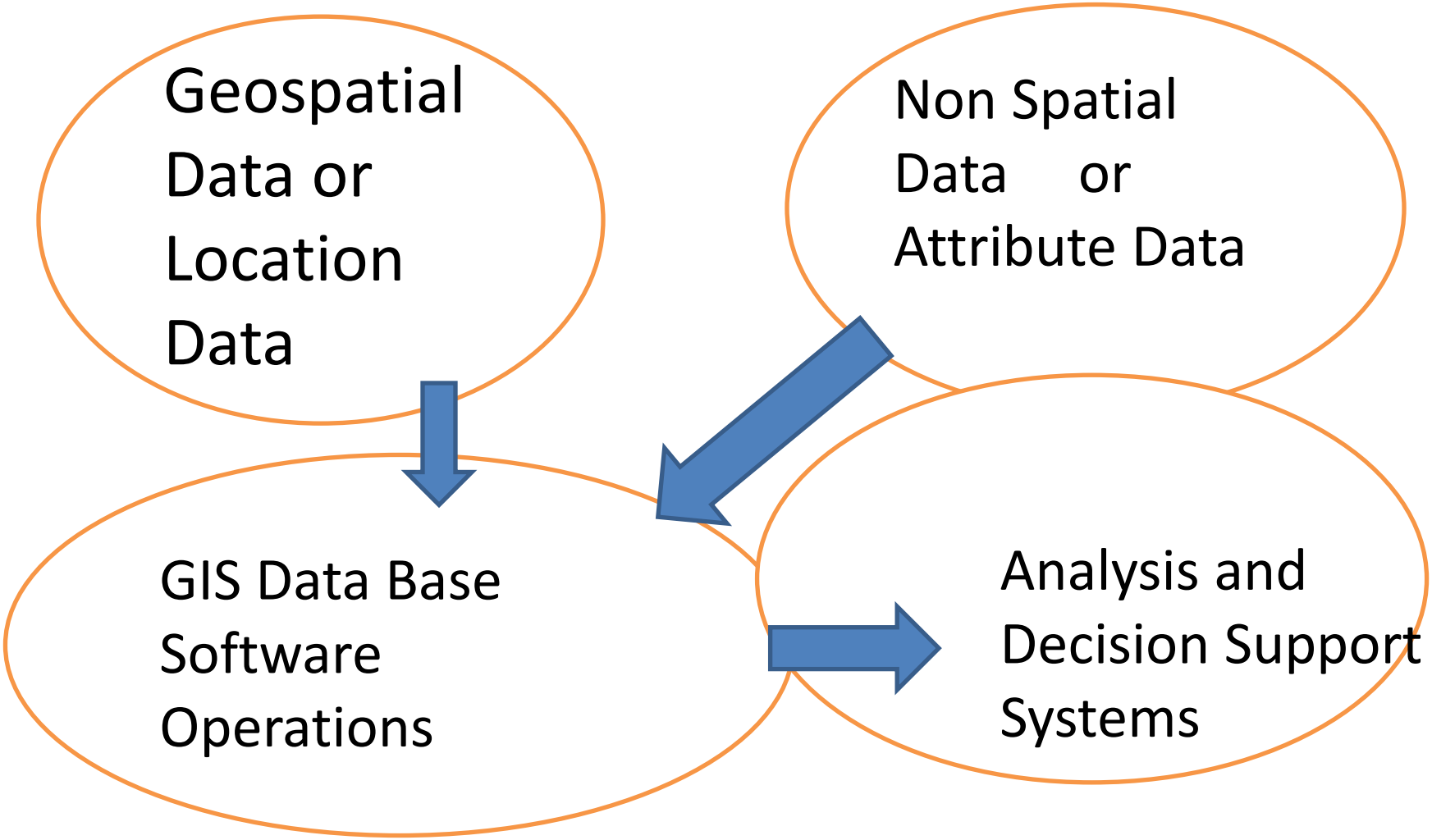
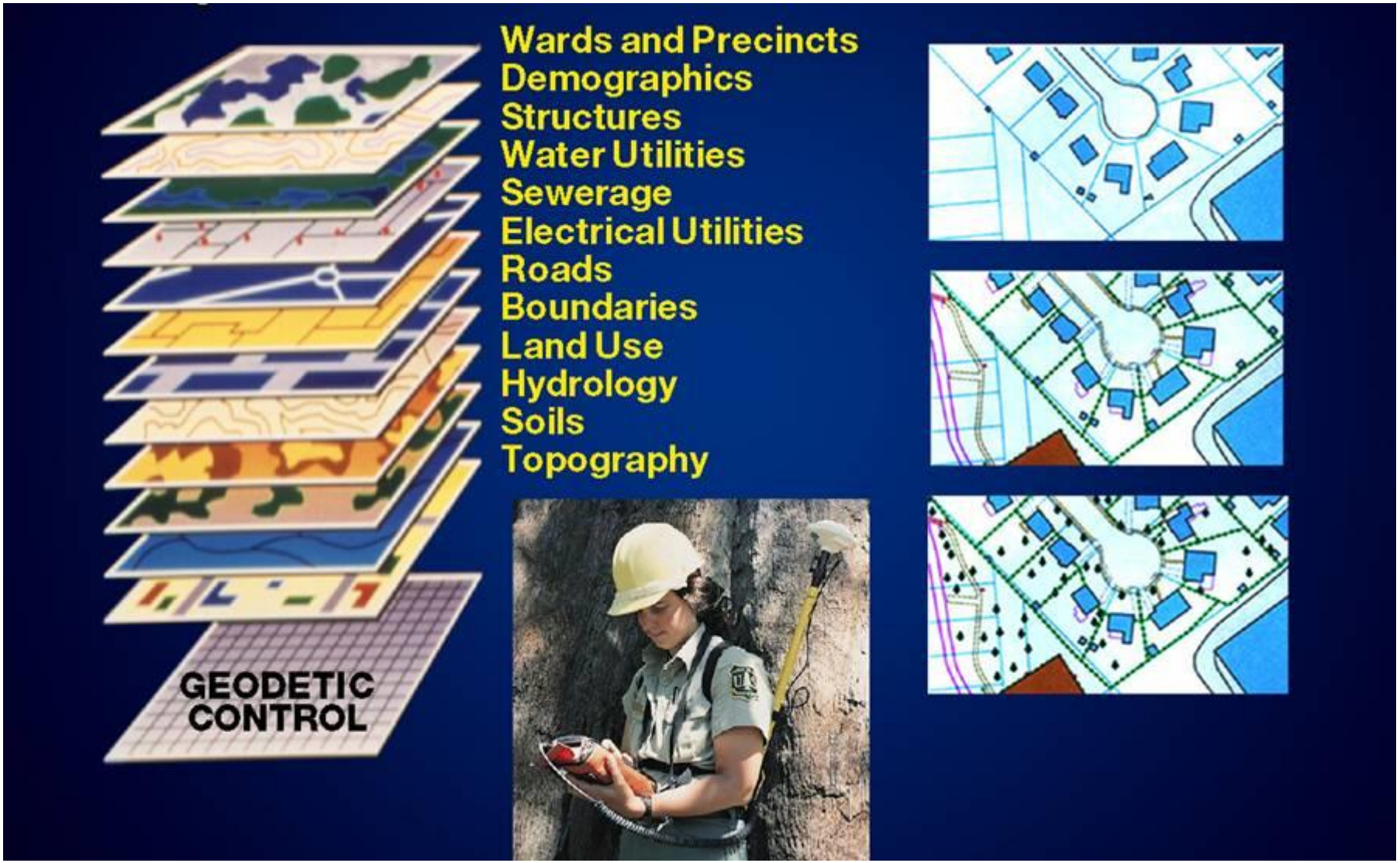
GIS –GEOGRAPHIC INFORMATION SYSTEM



Geographic Information Systems



Development of Geospatial Technology

- Map … Basic Infrastructural tool.
- Attribute data… for planning or designing a project.
- Integration of Spatial and non-spatial data.

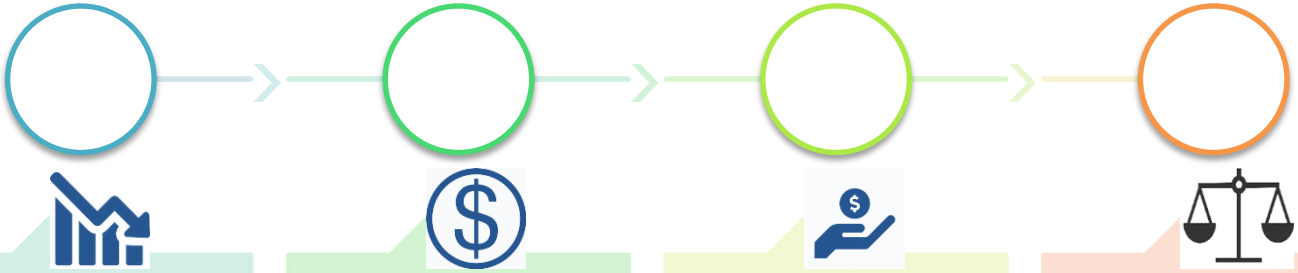
Geospatial Data

- Sources.. Map
- Aerial platform .1940 to 1990 Air Photography. Photogrammetry.
- Satellite Imagery.
- Drone Photography

LOCATION FUNDAMENTAL TO DECISION MAKING

MAPS ARE NOT JUST
DRIVING APPS TODAY;
THEY ARE DRIVING
ECONOMIES TOO

VALUE OF MAPS IN INDIAN ECONOMY



*In 2010, McKinsey Global Institute's report had highlighted that land market distortions in India lead to **1.3% loss in GDP** annually.*

*This amounts to **$34.45 billion** each year at current values (Indian GDP is currently valued at $2.65 trillion).*

*In other words, effective use of mapping & digital technologies in our land records management can **unlock $34 bn.***

*This is almost **equal to FDI equity inflows into India** between April and Dec 2017, making it one of top FDI destinations in the world.*

CONTRIBUTION TO GLOBAL ECONOMY

$1trn business sales facilitated by digital maps in 2016

$550bn consumer benefits derived from map services

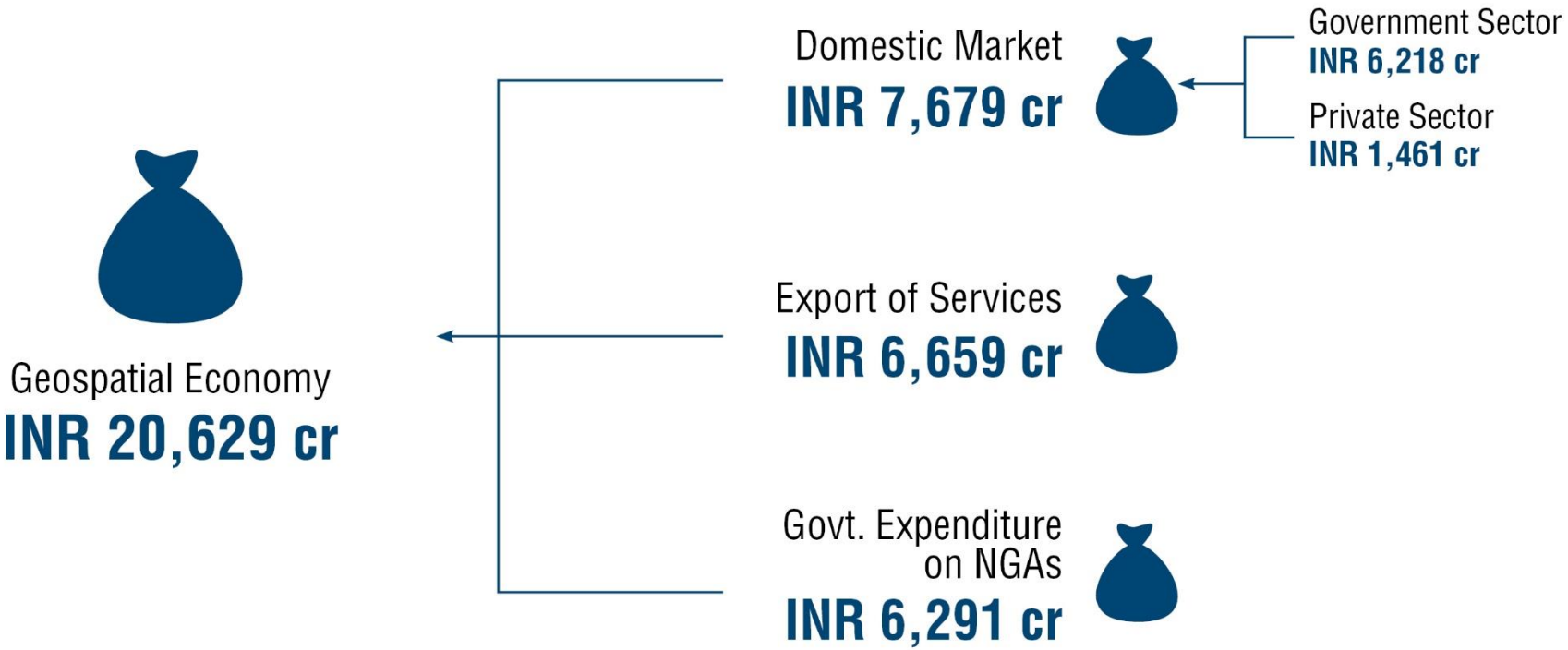
4 mn direct jobs generated by mapping services globally

5% improvement in revenues and cost savings by companies

75% sectors representing global GDP directly benefitted

1,686 mn Mt reduction in vehicular emissions because of digital maps

Estimated Value of Indian Geospatial Economy in 2017-18



Employment within Indian Geospatial Economy in 2017-18

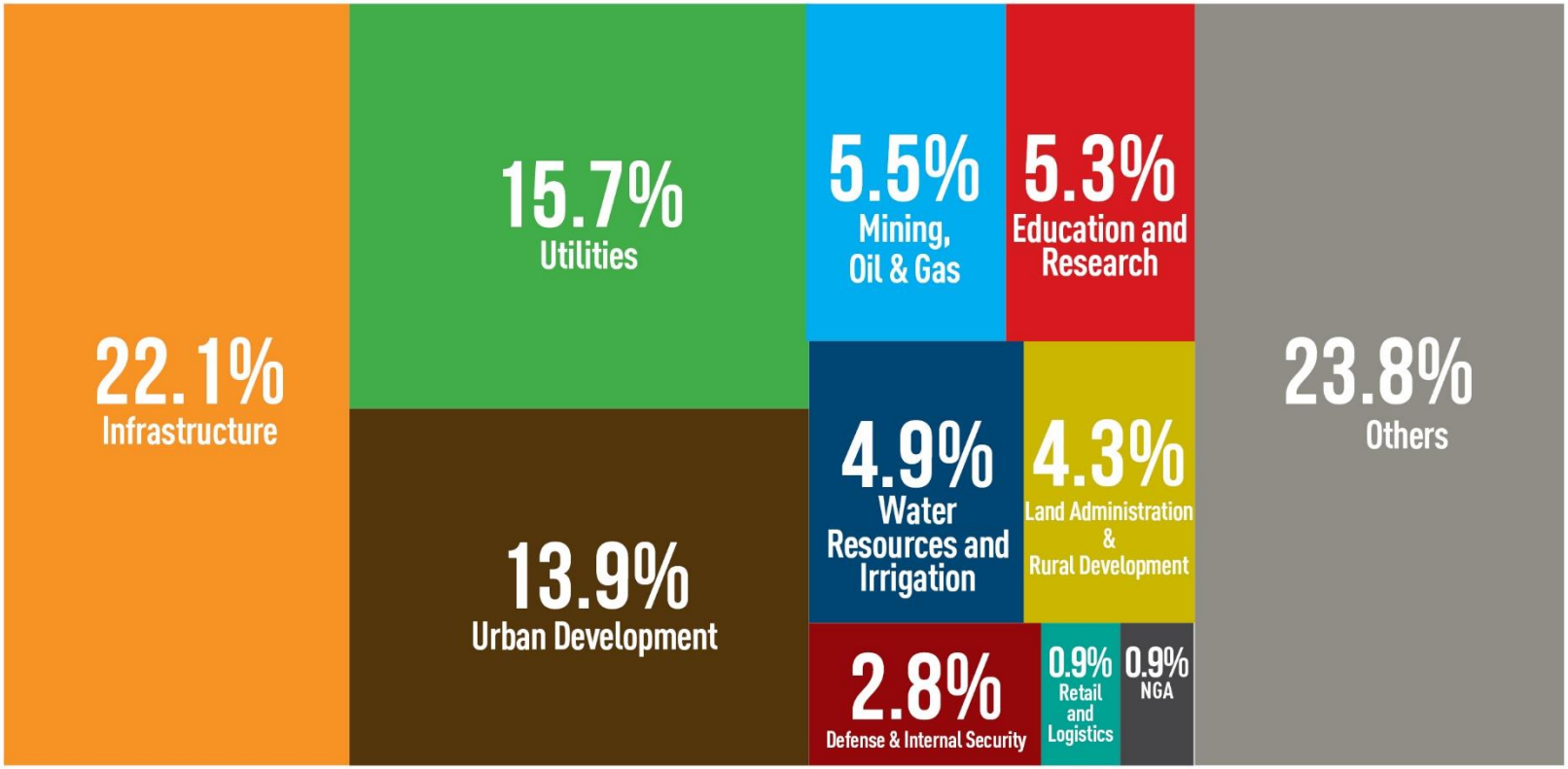
Employment
2,51,300

Domestic Market
145,400

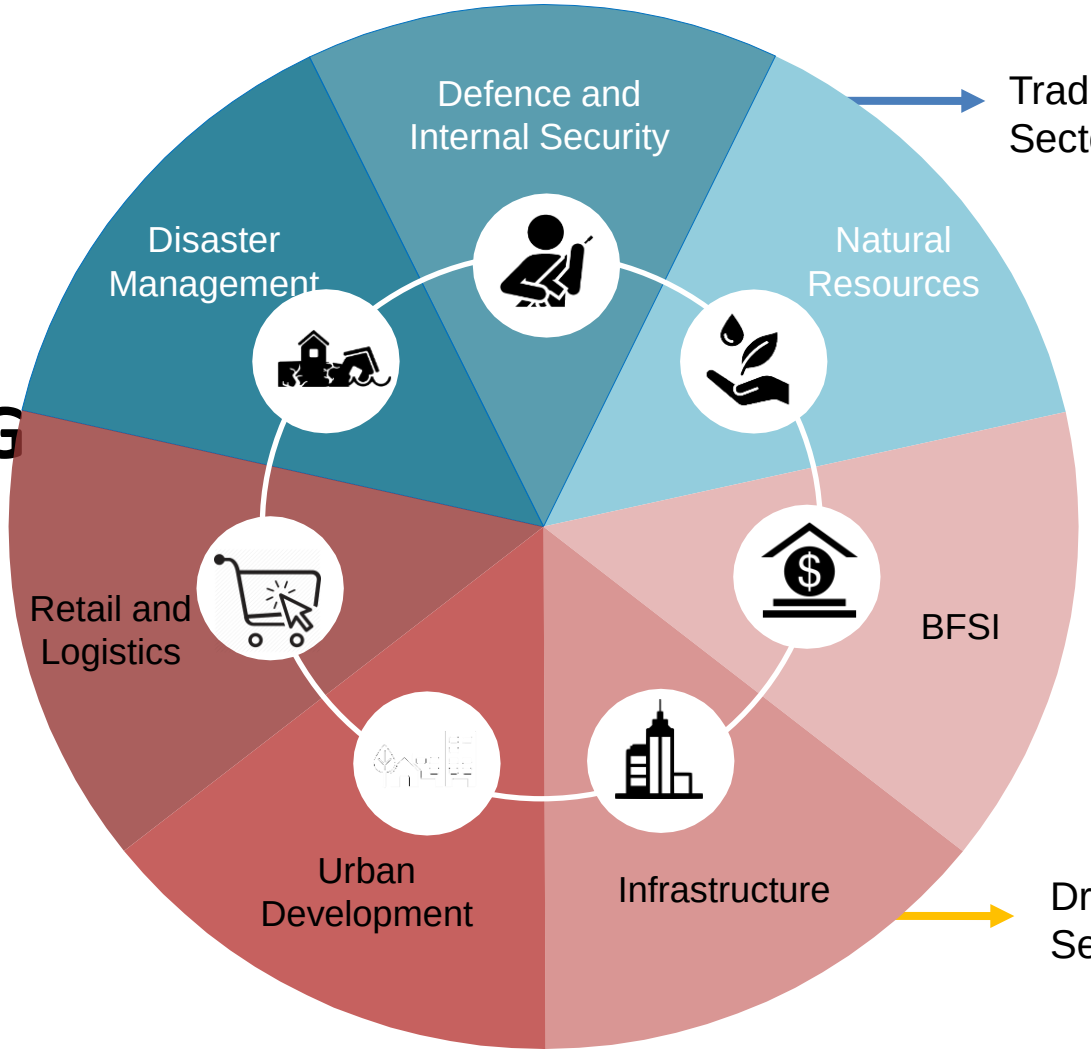
Export of Services
66,600

Government Services
39,300

Market Distribution as per Application Areas (FY 2017-18)



GEOSPATIAL DIVERSIFYING INTO NEW MARKETS



KEY TAKEAWAYS

01

Services segment the largest part of the Indian geospatial market with 74.4% mkt share in FY 2017-18

02

Sizeable part of Indian geo industry caters to overseas market, exporting a range of services

03

India imports almost all of its hardware requirement for surveying and special purpose measurement stations.

04

Land & survey segment alone is estimated to have more than 5,000 enterprises, employing nearly 2 lakh

05

Industry lacks a solution centric approach and is more inclined to sell software boxes/ hardware

06

In EO sector, there is huge scope for commercialization for pvt industry in both upstream and downstream

SWOT ANALYSIS OF GEOSPATIAL INDUSTRY

Strenghts

- Presence of local as well as global technology leaders
- Globally acknowledged remote sensing programme
- Strong workforce catering to local and overseas services requirements

Weaknesses

- Absence of a robust geodetic infrastructure
- Strict controls on data access
- Missing domestic hardware manufacturing capacity

Opportunities

- Increased government focus on use of geospatial solutions
- High growth in internet-led consumer services
- Strong growth expected in value added services

Threats

- Heavy reliance on government project
- Delays in geodetic infrastucture update
- Inadequate planning and coordination

Scope of Applications of GIS

- GIS technology yields Decision Support Systems based on the data in the project.
- Can be applied effectively in any Engineering, Municipal or Revenue projects.
- In modernizing Cadastral Mapping and creating a National Land Data System. Less cases in courts.
- Integration with AI enhances it’s power multifold.

Drones in GIS

- Best source of capturing Geospatial data of high resolution.
- Fastest.
- Scope for around 10 drone companies in Land Surveys.
- Can be used in Traffic Management, Agricultural Mapping, Hydrology and Disaster and crowd management.

Legal Issues

- Data Collection Policies.

a. Geospatial data b. Attribute data

- Field Survey Policies.

a. Restrictions on field surveys?

- Infrastructure related policies.

Control data. CORS, Map Restriction Policy, Air Photography Related Policies,Geospatial Data Policy

- Software related policies.
- Mobile and Internet Related issues.

THANK YOU

If any participant intends, he/she can send the query to

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Sh. Sanjay Kumar, CEO,

GEOSPATIAL media + communications