



# Geospatial Solutions for Digital cities

- New realities
- Evolving Technology
- Disruptive Business Model



## ESTABLISHED

Established in **2002**, SATPALDA has successfully completed a wide range of photogrammetry, mapping and remote sensing projects.



## PROFILE

- Satellite Remote Sensing
- GIS
- Photogrammetry
- LiDAR
- UAV
- Aviation Solutions
- 3D Landscape
- WebGIS & Software Development



## EXPERIENCE

**Twenty years** of rich experience and expertise, our company has a team of experts with thousands of man hours of production and experience



## PRODUCTS

- Satellite Imagery :  
WorldView, GeoEye,  
KazEOSat, BlackSky,  
GRUS
- **3D Landscape**- 50cm  
to 5m DSM/DTM
- **AMDB** (Aerodrome  
Mapping Database)



## SERVICES

- Drone  
Photogrammetry
- Satellite  
Photogrammetry
- Land subsidence  
Mapping
- 3D Modelling
- Cadastral Mapping
- GIS Mapping
- Planimetric mapping
- SDSS



## SECTORS

- Water
- Mining
- Railways
- Forestry
- Agriculture
- Oil and Gas
- Disaster Management
- Urban Planning
- Waste Management



## PARTNERS

- BLACKSKY
- AXELSPACE
- MAXAR
- RESTEC
- SCANEX
- Simactive
- INTERMAP



**Operating From**

**2**

Locations

**Projects**

**60+**

Countries

**Across**

**6**

Continents

**Delivered**

**1500+**

Projects

**Technical Staff**

**70+**

Supporting





# Smart City Overview





## Objective

- Efficient transportation, public and health services
- Contribute significantly to the country's economy
- Underground cabling to avoid electrocution
- Decision-making based on spatial data
- Smart waste management, recycling and reuses
- Citizen-centric

## Applications

- Site identification, selection, evaluation, etc
- Planning : 2D–3D Design, and visualisation of cities
- Construction and project management
- Facility management information systems
- Operation and reporting



Source: smartcityindore.org





# Our Solutions for Digital Cities



Remote Sensing

Photogrammetry



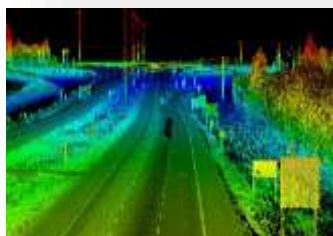
GIS

DGPS

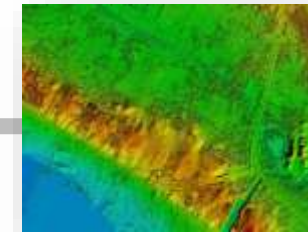


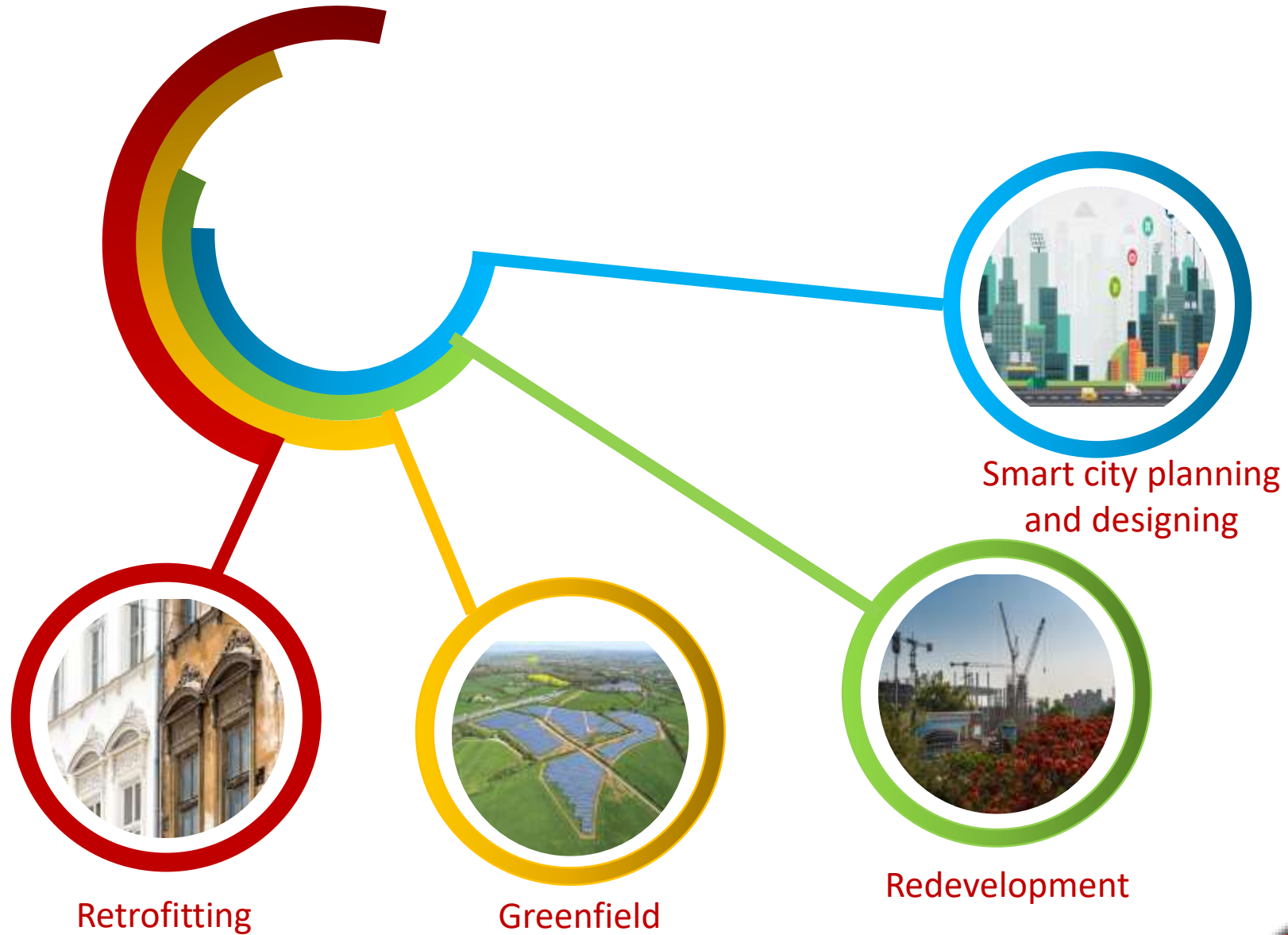
UAV

Ground Penetrating Radar (GPR)



LiDAR









Digital twin is the virtual representation of real-world assets, allowing simulation with real-time data. A digital twin can not only run simulations but also allow us to engage with it.

## Applications

- Disaster resilience
- Urban planning /smart city/ pan city solutions
- Structures and their system

## Advantages

- Better R&D: Development of R&D options with the help of data and simulations and creating efficient product design.
- Greater efficiency of the system or process with proper monitoring and achieving peak performance.
- End-of-life products: Digital twins can also assist producers in determining how to handle products that have reached the end.





The current share of the Digital Twin market and its forecasted growth.

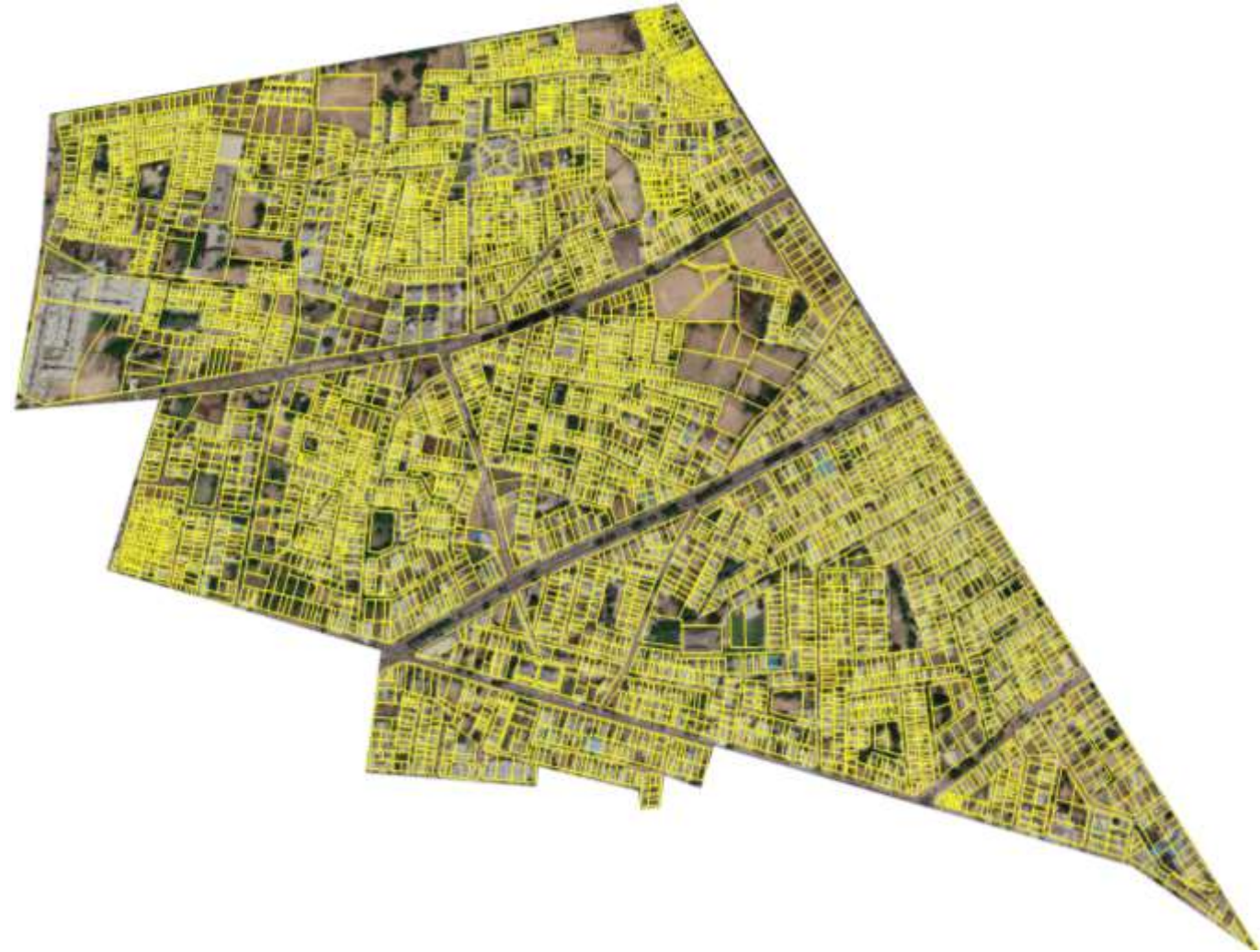


Source: Allied Market Research



## Property Tax Evasion using GIS

- Cities can increase their revenue by accurately identifying unidentified houses using GIS.
- The technique produces a visual result showing the location of such properties as either a paper copy or a digital map. Determining the impact of location on property value was challenging in the past since an accurate location was impossible to get.
- However, cities may easily analyze the geographic characteristics of any number of entities using GIS.





## Water Resource Management : Utility, Risk and Prevention

- Better water management and groundwater depth analysis.
- Surface water, watershed mapping and LULC mapping of the city to find where pressure will go negative and where water supply is required.
- Overhead tank, water supply pipeline, and waste water supply distribution and its maintenance.
- Urban flood risk analysis.
- Storm Water Management Model (SWMM).
- Inundation mapping.





## City and 3D Information Model

- 3D City models represent an actual 3 dimensional view of the buildings and contains all the details and dimensions of the infrastructure. This is important for a better understanding of housing and commercial properties.
- DEM and DSM are 3D Models of the bare earth, natural and man-made features . It is created using stereo pairs of remote sensing data. They have a wide range of applications like **flood analysis**, **volumetric calculation**, **cut-fill analysis**, etc.
- Slope detection, geomorphology of the terrain etc.
- 3D Planimetric maps based on high-resolution stereo pairs satellite images depict the best feature collection like roads, buildings, walls, parking, and many more.





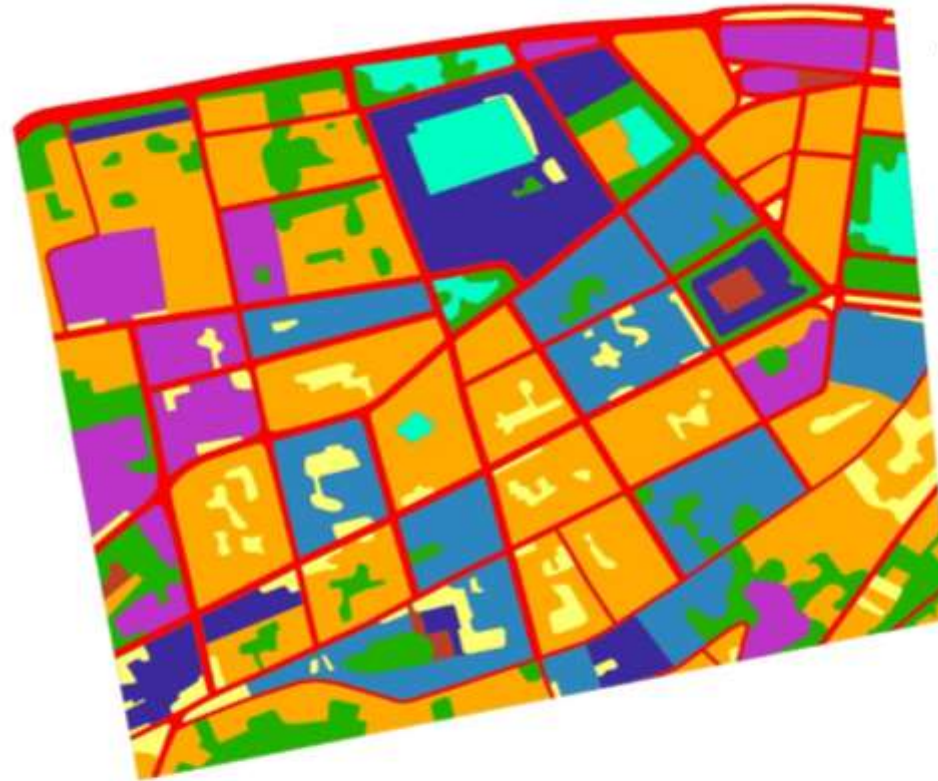
# Deliverables: 3-D Model (Al-Manakh)







## LULC- PANJIM (GOA)



### LEGEND

#### Category

Urban build up-Commercial	Urban build up-Recreational
Urban build up-Mixed	Urban build up-Residential
Urban build up-Open space	Urban build up-Transportation
Urban build up-Public Services	Vegetation
	Plantation





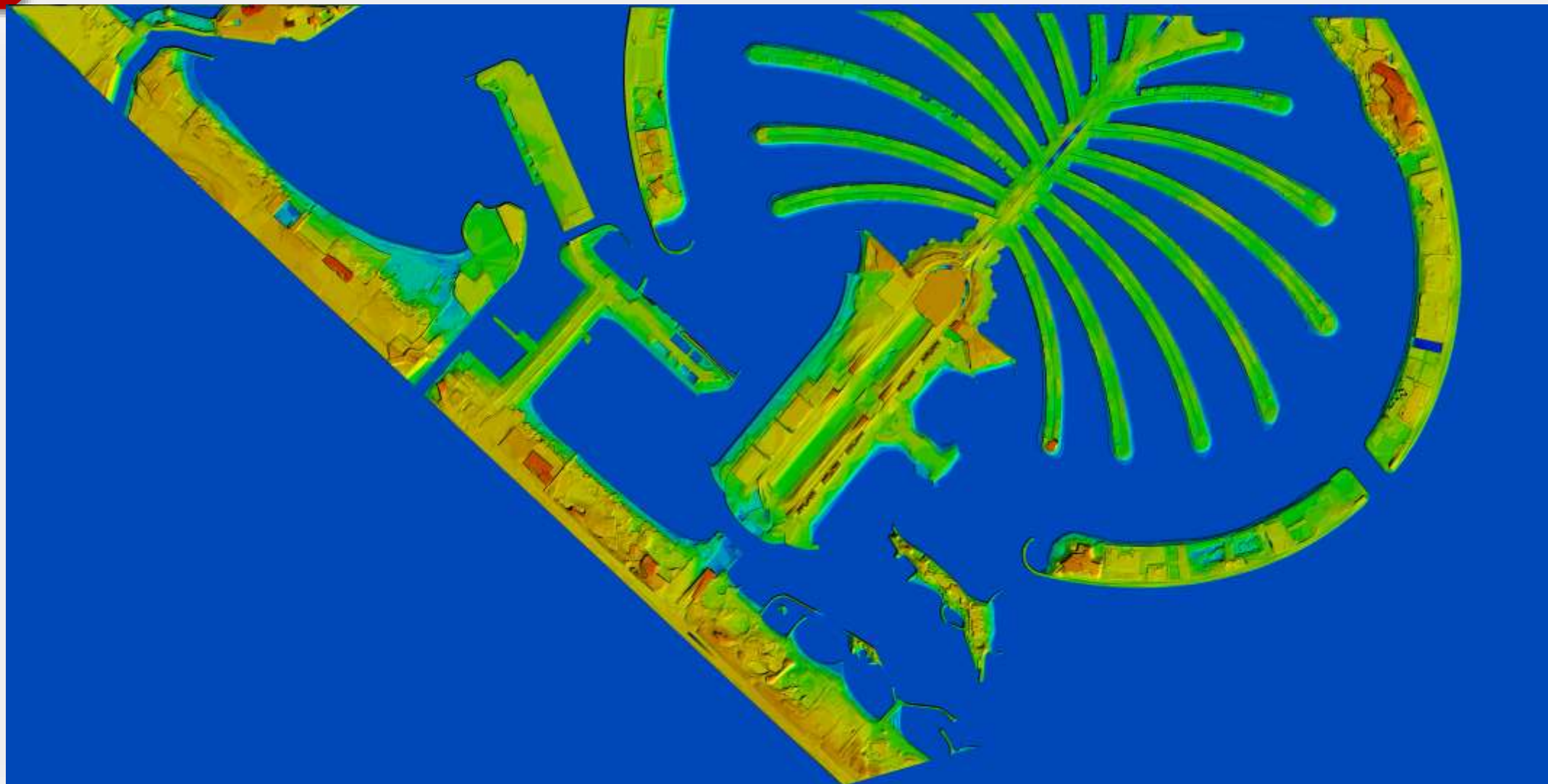


# Deliverables: Cadastral Map (Navi Mumbai)



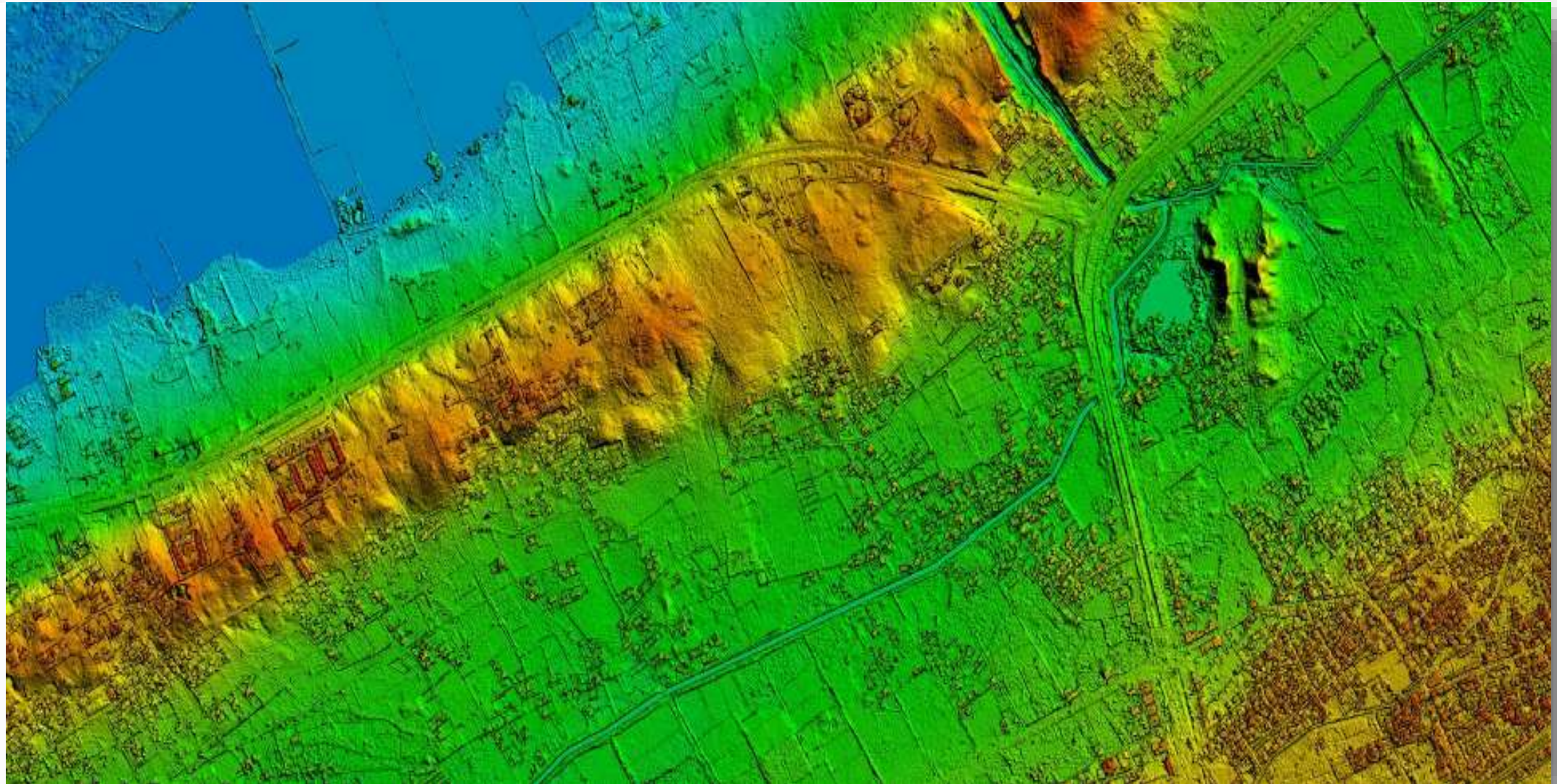


# Deliverables: DTM (Palm Jumeirah )





# Deliverables: DSM

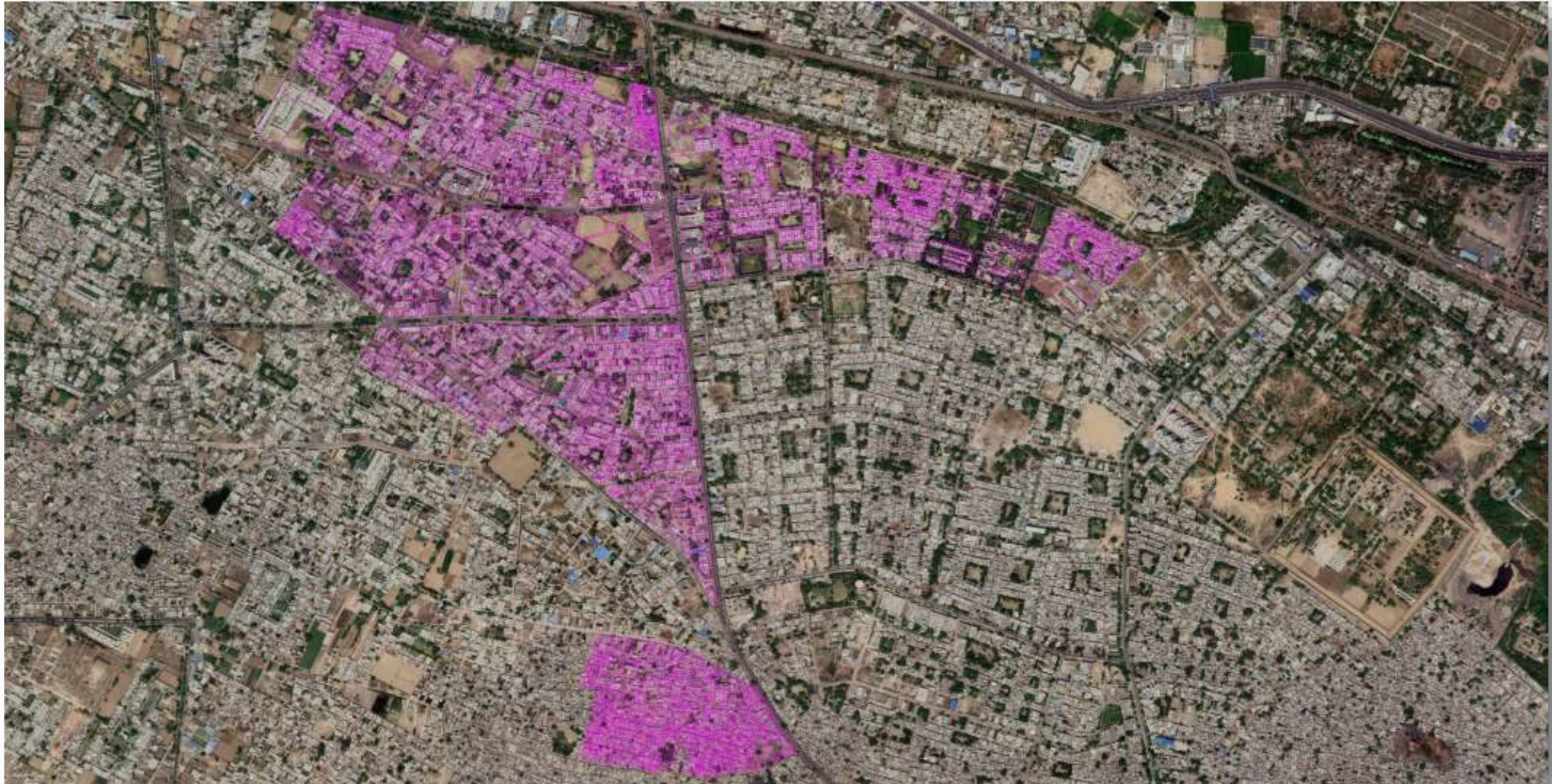




Deliverables: Taxation

Map (Agra ward no. 89)

SATPAL DA  
GEOSPATIAL EXCELLENCE





# Deliverables: Orthophoto (Panjim)





# Deliverables: Surface Water Mapping





# Thank You



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