



Role of Geospatial Technologies in Enabling Sustainable Land Administration

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Agenda

- 01** C_{REATE} Frame work - CORS
- 02** C_{APTURE} - Cadastral Survey
- 03** C_{REATIVE}
- 04** C_{OMMUNICATE} - Integrated Survey
- 05** C_{LOUD} Integration



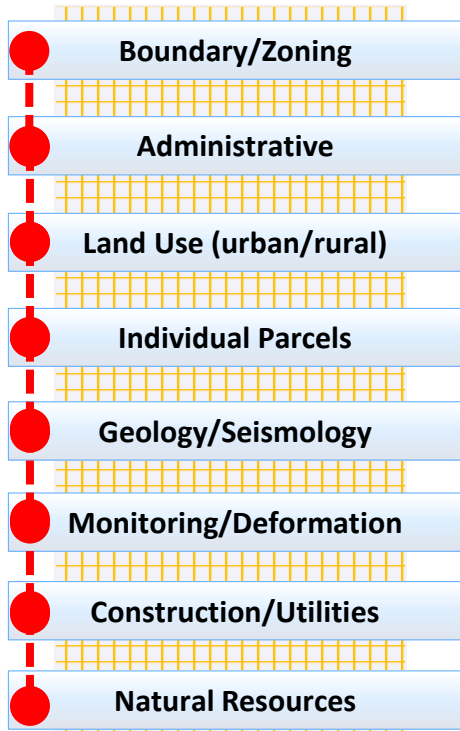
01

CREATE

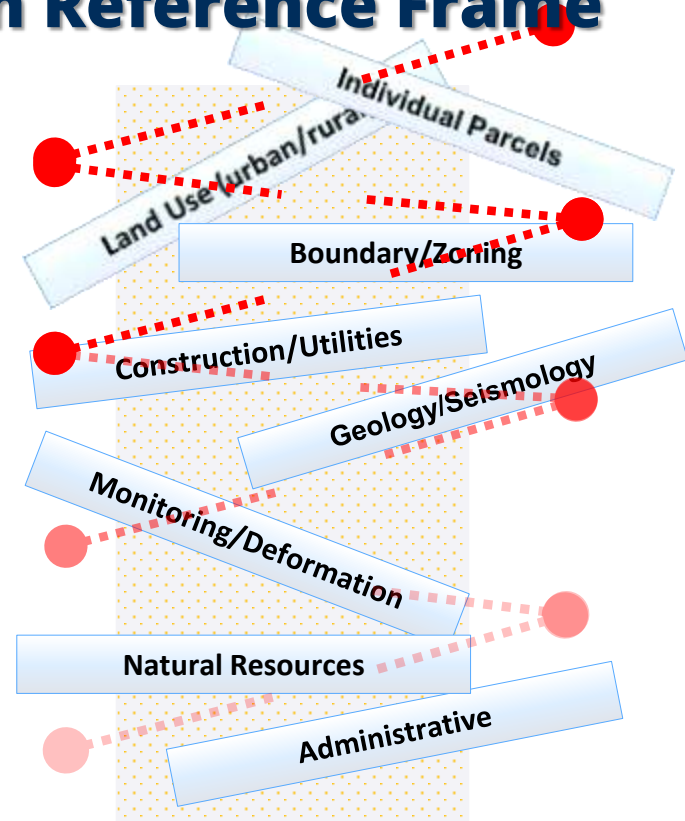
FRAMEWORK - CORS



The Benefits of a Common Reference Frame

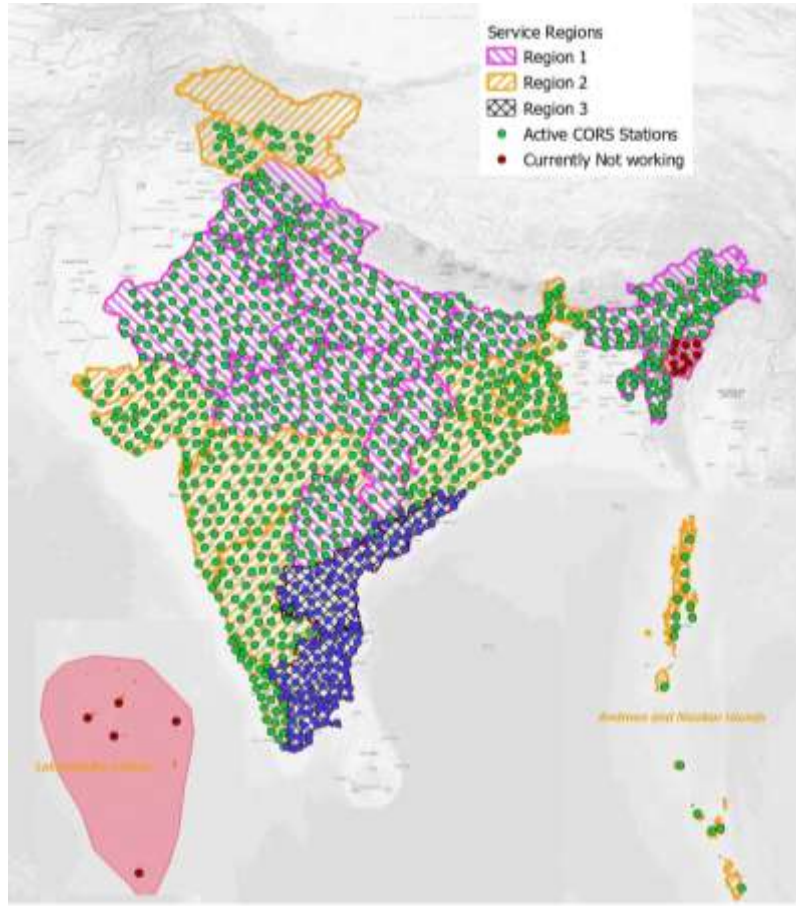


SDI Development with a Common Reference Frame



Sporadic SDI Development

CORS NETWORK STATUS IN INDIA



02

CAPTURE



Multiple Sensors for Cadastral Survey

GNSS



TOTAL STATION



DRONES





Cadastral Applications

- Precise Survey & Mapping Applications
 - Control Points
 - Measure new or changed boundaries
 - Location of Land Parcels
 - Establishing Land Ownership
 - Encroachment
 - GIS & Mapping - Features
- Forest and Vegetation Management



REQUIREMENTS IN FIELD

Speed & Ease of use

- Focus on placement of the Receiver- TIP
- Collect Points & Features faster – 30%
- Accurately capture tricky features like building corners-TILT
- One-step stakeout increases efficiency & reduces operator fatigue- Keep working during outages

Robustness

- Consistent Receiver performance in challenging environments like Urban Forest cover or Canopy areas
- All Weather Data collection



03

CREATIVE

CORE OF INNOVATION



Key Requirements

Support Multiple Platforms



Ease of Use b/w Multiple Devices



Versatile



Lightweight



Accurate & Fast Data Collection



Data Collection without dependency



04

COMMUNICATE

COLLABORATION OF SENSORS AND SOFTWARE



INTEGRATED SURVEY

- One File One Job- Time Saved
- Common Coordinate system- UTM- Consistency
- Common Scale Factor- Consistency
- Collected data and deliverables in Global Single Platform



INTEGRATED SURVEY DATA

12:18 08/10 70% 24% S +2 HA:36°47'16" VA:88°32'44"

1.680 2 1.800

Measure topo ★

Point name
1287

Code
LP

Target height
1.800m

HA 36°47'14"
VA 88°32'56"
SD 9.675m

Esc Attrib Read Enter

3:25 12/04 14 2.000 RTK H:0.010m V:0.015m ✓

Measure codes ★ F5

Road structures

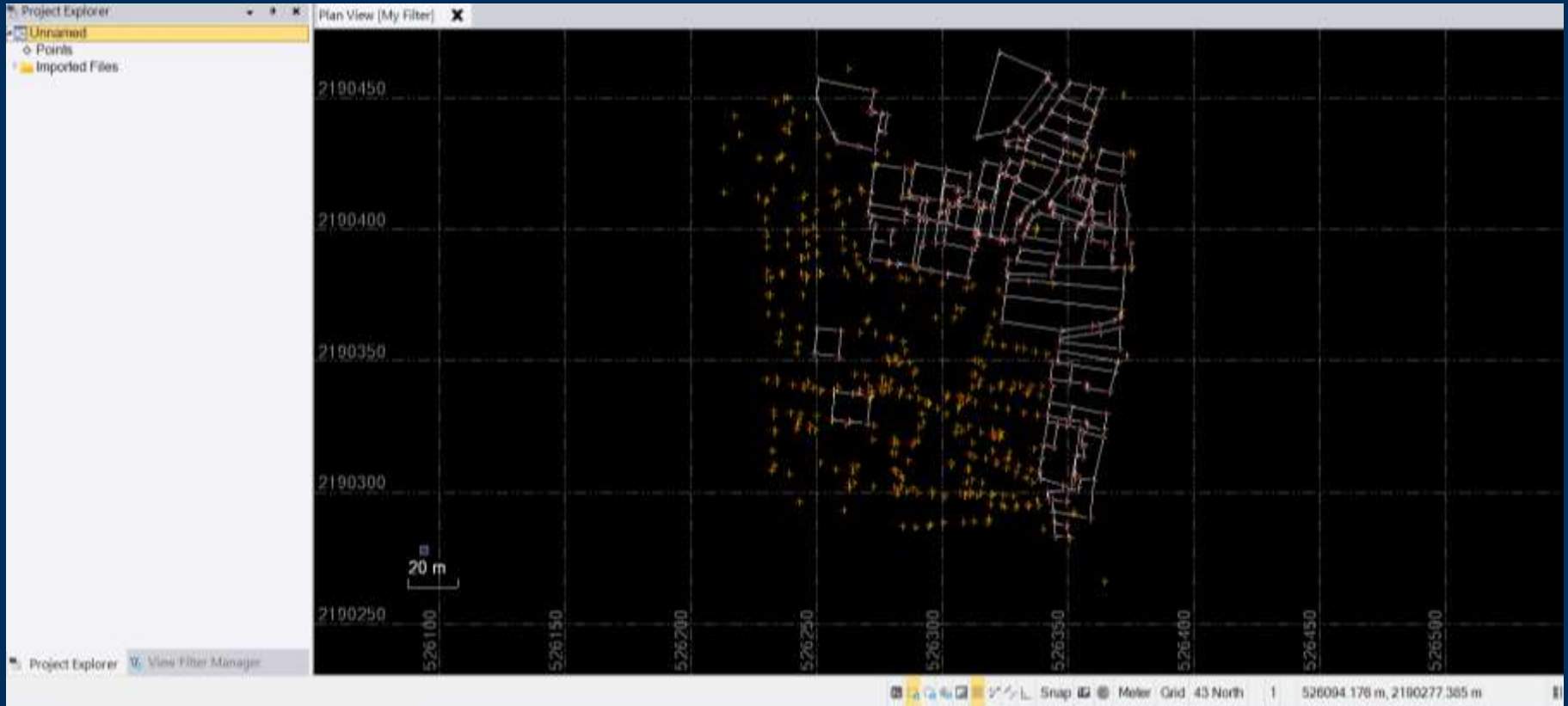
7	8	9
BC	EPMT	BLDG
4	5	6
FH	PP	SMH
1	2	3
STMH	SL	SSL

Code BC END

Esc - + Find ↑ Measure



CADASTRAL VECTOR DATA



Cadastral vector Data with Real Time Background Map.





Land Register Automation using Photogrammetry



BOUNDARY MAPPING - UAV



ORTHOMOSAIC IMAGE



DIGITIZED VECTOR ON UAV IMAGE



ASSET MAPPING - UAV



ORTHOMOSAIC IMAGE



DIGITIZED VECTOR ON UAV IMAGE



Segregation of Data

Satellite Image



Automated Features Extraction



Segregation of Satellite / Drone Data



05

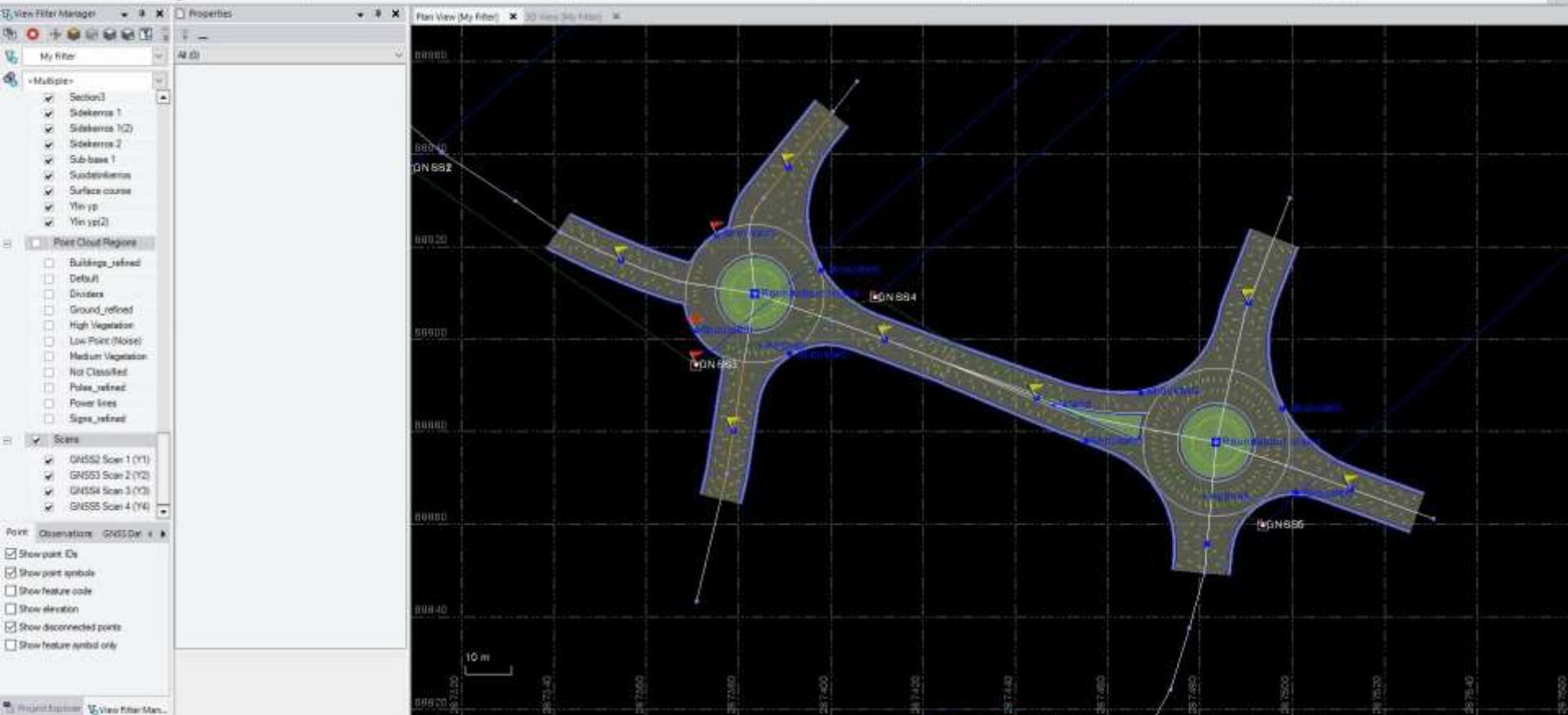
Cloud Integration



File Home Survey GIS CAD Drafting Surfaces Corridor Point Cloud Construction Data Photogrammetry Tunnels Monitoring Mobile Mapping Data Prep Takeoff Site Mass Haul Corridor Mass Haul Utility DMI File Compact ANZ Edit ANZ Tools Macros Support

Import Export Reference File Save File Remotely Send to Sync Job Report Generator Open Remote File Device Plane View Exchange

View Filter Manager My Filter Plan View 3D View Top Plane Manager Cutting Plane View Limit Box Station View Google Earth Float View History Log View Project Explorer Points Photo Point Explore Object Occupation Vector Filter Line Making Optical Feature Measure Distance Selection Explorer Select Points Select Duplicate Points Select by Elevation Select Observations Select by Layer Select by Polygon Select Similar Advanced Select Invert Selection Select All



Projects

New Filter project Last used

South Devon TED 17:51

Dev1 04/05/2023

Ellen South Devon Samples 03/05/2023

BIM 03/05/2023

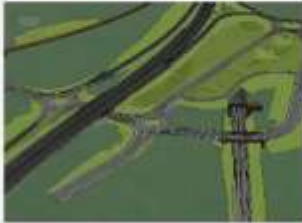
Tunnle 28/04/2023

Fabrication Test

Properties

Open

South Devon TED



Jobs (6)
Road1
South1
SouthJob1
SouthJob2
SouthJob3
SouthTest1

Trimble Geospatial

GNSS Positioning Services



High Precision Mixed Reality



Survey & Mapping GNSS Systems



Mobile & Cloud "Asset First" Software



Ruggedized & Specialized Handhelds, Controllers, & Tablets

High Precision Optical Positioning & Reality Capture



Mobile Mapping



TRIMBLE

Thank You

Credits

For Questions or Feedback please contact:
brand@trimble.com

THANK YOU

GRAZIE VINAKA
ERIMA KASIH
TAKK
merci

감사합니다
다

謝謝
謝謝

ありがとう