



भारत सरकार / Government of India
ग्रामीण विकास मंत्रालय / Ministry of Rural Development
भूमि संसाधन विभाग / Department of Land Resources

National Symposium on
**NAKSHA - National Geospatial Knowledge-based Land
Survey of Urban Habitations and LandStack**

(Date: 03rd December, 2025)

Bharat Mandapam, New Delhi

Minute To Minute Programme

Inaugural Session

08:30 - 09:30 AM	Registration
09:30 - 09:40 AM	Arrival of Dignitaries
09:40 - 09:50 AM	Lighting of Lamps by Dignitaries
09:50 - 09:55 AM	Welcome Address by Shri Sanjay Kumar , CEO, Geospatial World
09:55 - 10:05 AM	Overview and Objective of Symposium by Shri Kunal Satyarthi , Joint Secretary, DoLR, Govt. of India
10:05 - 10:20 AM	Leadership Address by Shri Manoj Joshi , Secretary, DoLR, Govt. of India
10:20 - 10:30 AM	Vote of Thanks by Shri Shyam Kumar , Director, DoLR, Govt. of India

TECHNICAL AGENDA - (3rd December, 2025)

SESSION - I: NAKSHA Review

Session Time | 10:45 - 11:30 AM

Session brief & deliberation points: A comprehensive review of the pilot programme, its objectives, coverage across 150+ cities, and early outcomes in modernizing urban land records.

- Review the progress of NAKSHA in all States/UTs
- Challenges so far faced in implementation
- Importance of integration of geospatial technologies for accurate land mapping and data visualization.
- Successful models of public-private partnerships and the role of technology companies in developing and implementing innovative solutions.

Speaker: Shri Kunal Satyarthi, Joint Secretary (LR), Department of Land Resources, Govt. of India

NETWORKING TEA BREAK | 11:30 AM- 11:50 AM

SESSION -II: Aerial Flying & Feature Extraction-Learnings from NAKSHA

Session Time: 11:50 - 12:45 PM | Context Setting: 11:50 - 11:55 PM
Speakers: 11:55 - 12:35 PM
Questions & Answers: 12:35 - 12:45 PM

Session deliberation points:

- How does aerial photography modernize urban cadastres by improving positional accuracy and ensuring transparent property depiction?
- What methods does Survey of India use to ensure high ORI and feature-extraction accuracy, and what challenges arise when aligning them with ground truth and legacy cadastral maps?
- How is aerial data accuracy maintained in dense urban areas despite shadows, reflections, and occlusions?
- How do LiDAR and oblique imagery complement each other in creating 3D city models, and what unique value does each provide?
- How mature are AI/ML techniques for extracting parcels, building footprints, and urban features where no common identifiers exist?
- Is AI automation in national survey platforms a strategic advantage or a complexity risk, given scale and accuracy needs?
- How can cloud limitations and fragmented microservices be addressed to maintain performance and security at statewide scale?
- What architectural improvements are needed to make WebGIS platforms fully seamless for feature extraction and Ur-Pro Card generation?
- How do privacy rules, no-fly zones, and operational restrictions shape aerial survey planning and execution in urban areas?
- What common errors occur in large-scale urban aerial surveys, and which best practices most effectively reduce them?
- What validation frameworks are required to reconcile high-resolution aerial outputs

with ground survey realities in complex urban settings?

- When datasets lack unique identifiers, which AI or computational approaches best support reliable land data integration?

Chair: Shri SK Sinha, Additional Surveyor General, Survey of India (SoI), Govt. of India

Moderator: Dr. Shivangi Somvanshi, Centre Head, Centre for Applied Geomatics, CEPT University

DoLR Moderator: Dr. Mandvi Misra, GIS Technical Expert

Speakers:

1. Shri Misal Roshan Shrivastava, Superintending Surveyor, Survey of India
2. Shri B. V. Reddy, Director Aarvee Consultants
3. Shri Saurabh Rai, CEO, NeoGeo Technologies
4. Shri Sundar Raj, Delivery Head, LTI Mindtree
5. Shri Surendra Nath Das, CEO, Mapex (Azure)
6. Shri Atanu Sinha, CEO, Garuda UAV

SESSION III - NAKSHA Ground Truthing, Interoperability and Data Maintenance in Urban Areas

Session Time: 12:45 - 01:30 PM

Opening Remarks: 12:45 - 12:50 PM

Speakers: 12:50 - 01:25 PM

Questions & Answers: 01:25 - 01:30 PM

Session deliberation points:

1. Which advanced survey methods and geospatial technologies are improving the precision and reliability of ground-based land surveys?
2. How can land parcel boundary delineation and land attribute capture be enhanced to boost transparency, accuracy and accountability in land governance?
3. What key challenges hinder interoperability when merging land datasets from municipalities, revenue agencies and private entities and how can these be resolved?
4. Which data standards, institutional protocols and technical frameworks are required to build a unified, interoperable architecture for seamless land record exchange and updates across departments?
5. Which emerging technologies such as AI analytics, blockchain, 3D mapping and cloud geospatial platforms will most improve efficiency, accuracy and citizen centric land administration?

Chair: Smt. P. Amudha, Additional Chief Secretary, Revenue Department, Govt. of Tamil Nadu

Moderator: Shri Vinod Mishra, Vice President, MapmyIndia

DoLR Moderator: Shri Ashwani Alfred, Manager Geospatial Technology

Speakers:

1. Shri. Krishna Mohan Uppu, Secretary (Revenue), Govt. of Puducherry
2. Shri J. Manjunath, Commissioner Survey Settlement and Land Records, Govt of Karnataka
3. Smt. R.J. Vidyullatha, Director, Town Country Planning, Govt. of Andhra Pradesh
4. Shri Yash Pal, Director, Land Records, Govt. of Haryana
5. Smt. Ranjana Rajguru, Commissioner cum Secretary, Revenue Department, Govt. of Uttarakhand

LUNCH BREAK

01:30 - 02:30 PM

SESSION IV - Land Stack: Building the Future of India's Digital Land Ecosystem

Session Time: 02:30 - 03:15 PM	Opening Remarks: 02:30 - 02:35 PM Speakers: 02:35 - 03:10 PM Questions & Answers: 03:10 - 03:15 PM
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Session deliberation points:

1. What key base layers should form the core of a national LandStack – cadastral boundaries, ownership records, utilities, imagery, or others?
2. What are the major challenges in integrating cadastral maps, geospatial data and administrative records into a unified LandStack, and how can they be resolved?
3. What is the current readiness of utility agencies to provide accurate, real-time data and what steps are needed to onboard them into the LandStack?
4. Is a single national platform preferable, or should India adopt a federated LandStack where States retain autonomy under common standards?
5. What specific benefit such as reduced disputes, faster services, better planning, or improved credit and taxation can the LandStack deliver, and in what timeframe?

Chair: Shri S. Chockalingam, Chief Electoral Officer, Govt. of Maharashtra

Moderator: Shri Sanjay Kumar, CEO, Geospatial World

DoLR Moderator: Shri Dhawal Trivedi, Technical Documentation Expert

Speakers:

1. Shri J Manjunath, Commissioner, SSLR, Govt. of Karnataka
2. Dr. Sultan Singh, Director, HRSAC
3. Shri Deepak Jacob, Director, Survey & Settlement, Govt. of Tamil Nadu
4. Dr. Zaffar, Vice President, Director-Geospatial Advisory & Innovation, Woolpert, Australia
5. Shri Samarth Hans, Director - Projects, Geospatial World
6. Shri Rahul Ratnam, Manager - Geospatial Technology, SPMU Chandigarh

NETWORKING TEA BREAK	03:15 - 03:45 PM
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SESSION V - End-to-End Demonstration of WebGIS Platform & Cloud Services

Session Time: 03:45 - 04:45 PM	Opening Remarks: 03:45 - 03:50 PM Speakers: 03:50 - 04:35 PM Questions & Answers: 04:35 - 04:45 PM
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Session deliberation points:

1. How do limited cloud facilities cause performance bottlenecks?
2. What is the cloud strategy for scaling, ensuring data security, DR readiness, and maintaining high performance for statewide usage?
3. How can a lack of technology in a cloud environment affects the management of microservices?
4. How can the portal be made fully end-to-end and seamless for generating Ur-Pro Cards?
5. How can automated validation impact operations in no-network and low-network areas?
6. Is integrating AI automation into the portal a curse or a blessing?
7. How does the WebGIS/mobile app manage low network availability, inaccurate GPS points, and dense property clusters during field operations?

Chair: Shri Deepak Jacob, Director, Survey & Settlement, Govt. of Tamil Nadu

Moderator: Shri Snehashish Misra, Associate Professor, CRS-LBSNAA

DoLR Moderator: Ms. Deepti Parihar, Data Management & Cloud Solutions Expert

Speakers:

1. Dr. Sandeep Goyal, Executive Director, MPSEDC, Govt. of Madhya Pradesh
2. Shri. Krisna Rao, Vice President, Esri India
3. Shri Koduri Venkatesh, Project Manager, Dream Step Software Innovation Pvt. Ltd.
4. Shri Gokhul Praveen, GIS Team Lead, Govt. of Karnataka
5. Shri Pradeep Kumar, Manager, SPMU, Govt. of Maharashtra
6. Shri N Prakash Ranjan Mahanta, Cloud - CSD HoD, National Government Cloud

SESSION VI - NAKSHA: Legal Framework

Session Time: 04:45 - 05:30 PM

Opening Remarks: 04:45 - 04:50 PM

Speakers: 04:50 - 05:20 PM

Questions & Answers: 05:20 - 05:30 PM

Session deliberation points:

1. How to align Rules/ SOPs/ Manuals/ Instructions of the States and UTs to successfully implement NAKSHA?
2. How to expeditiously align Rules/ SOPs/ Manuals/ Instructions of the States and UTs for Surveys and re-Surveys of lands in Urban areas with use advanced surveying equipment?
3. What alignments are required to formally integrate private surveyors in the survey process to tide over the challenge of shortage of manpower for survey work?
4. How can the States and UTs ensure that the existing ownership formats align with the UrPro cards proposed by DoLR (with modifications, if any)?
5. Future of UrPro Card as a single trusted digital property document that can empower citizens through secure mortgages, effortless transfers, and seamless integration across registration, mutation, property tax, and building permission systems.

Chair: Shri N.K. Sudhansu, Director General, YASHADA, Government of Maharashtra

Moderator: Smt. Deepika Jha, Consultant, IIHS, Bengaluru

DoLR Moderator: Ms. Niyati Patwardhan, Legal Advisor

Speakers:

1. Shri J Manjunath, Commissioner, SSLR, Govt. of Karnataka
2. Shri Kailash Karthik, Director Land Records and Surveys, Govt. of Assam
3. Shri Arpit Mehta, Assistant Director, Revenue Department, Govt. of Madhya Pradesh
4. Smt. Palavi Mishra, Assistance Settlement Officer, Govt. of Bihar
5. Smt. Rakhee Singh, Additional Director Land Records, Himachal Pradesh
6. Shri Chandrakant. B. Shetkar, Director, Directorate of Settlement and Land Records, Goa

SESSION VIII: Symposium Wrap-up: From Pilot to National Rollout

05:30 - 06:00 PM	CONCLUSION SESSION
Outcomes of the symposium (5:30 - 5:40 PM)	Shri Kunal Satyarthi , Joint Secretary, DoLR
Address (5:40 - 5:50 PM)	Shri Manoj Joshi , Secretary, DoLR
Vote of Thanks (5:50 - 6:00 PM)	Shri Shyam Kumar , Director, DoLR
06:00 PM Onwards	Exhibition and Technology Interaction with Evening Reception in Exhibition Hall