

# Survey India 2016

3<sup>rd</sup> National Conference &  
Exhibition on Land Survey & Mapping

7<sup>th</sup> - 8<sup>th</sup> September, New Delhi

## CONFERENCE REPORT



# Conference Report: 'Survey India 2016'

The third national conference and exhibition 'Survey India 2016' was held on 7-8 September 2016 at Hotel Holiday Inn, Mayur Vihar Delhi. Initiated with the objective to bring together the government departments, PSUs and industry users of land survey and mapping, it received an overwhelming response with 16+ sponsors and exhibitors, over three hundred and fifty delegates participating in the conference and visiting exhibition.

The proceedings and deliberations have been uploaded at SAMA's YouTube channel and can be accessed at <https://www.youtube.com/channel/UCxuxBMP5Q-3kS1y2P51x56A>. In succeeding paragraphs, a succinct brief is given with the objective to present the salient points and views of the speakers which in some way or the other can be a pointer to the way forward. The need for brevity precludes any verbatim or elaborate expression of the views of these eminent speakers. Readers are requested to refer to original speech available at the link above for the same.



**Shri Rakesh Verma**  
*President, SAMA and  
Co-founder MapmyIndia*

In his welcome address brought out the formation of SAMA as an initiative of survey and mapping community from industry, research, academia. He also apprised the audience about the objective of SAMA which is to create awareness about new technologies that can create a high impact growth in usage of geospatial in various vertical applications like smart cities, smart cars, land record modernization etc. In turn contribute to nation's development, enabling services and interaction between government and citizen. He also focused on the importance of maps and other survey technology in form of UAV or in terms of high resolution imagery, LiDAR, mobile mapping, indoor mapping and cloud sourcing for rapid data collection, which are widely used in the country and play very critical role in the development of the nation. SAMA as an organisation is moving towards bringing together the survey and mapping ecosystem which cares for the developmental interest of the nation.



**Shri Sudhir Krishna, IAS (Retd),**  
*Former Secretary  
Ministry of Urban  
Development and  
Chairman Finance  
Commission Delhi  
Government*

Gave a subtle reminder of some factors of the past which contributed to India lacking behind the technologically advance countries for quite some time. In a candid expression, he pointed out that one by one over the years we accepted planned urbanisation as key to expeditious growth, trust in local governance, municipalities and panchayats and most significantly trust in the capabilities of private sector and public private partnership. He expressed that SAMA should work with that common man centric approach and complimented efforts of SAMA.



**Shri Amitabh Verma, IAS**  
*Chairman  
Inland Waterways Authority*

Gave an interesting perspective on the development of Inland Waterways, more accurately on lack of it since ancient as this is a sector which somewhere historically neglected by the successive governments in India post independence. He mentioned details of the project undertaken by IWA, he said these requires huge institutional strengthening financial resources and obviously, a lot of technological support.

In a very fore sighted approach Shri Amitabh Verma encouraged Survey and mapping industry to come forward extensively in waterways as there is now an opportunity for the industry in this sector.



**Shri O P Singh, IPS**  
*Director General  
NDRF*

In his address dwelt over the operational dimensions of NDRF which do have linkages with surveys and maps. He emphasised on the role of NDRF becomes very critical when it comes to technological response which make crucial difference. NDRF is also working as multi disciplinary response, multi hazard response and community centric response agency. Sensitizing the community and capacity building within the community is another priority of NDRF. HE further added, use of geospatial technologies and capacity building in this domain will make India also one of the less vulnerable and disaster resilient nations.



**Dr S Kulshestra**

*Director, GSI*

In the Session titled 'Emerging Usages' Dr S K Kulshestra gave a glimpse of GSI, a leading national survey agency actively perusing projects which aims at creating and maintaining Geo science, earth science database generator to geophysical, geochemical and geological mapping. He mentioned about the programme initiated by Ministry of Mines to convert all the published paper maps and field maps on GIS format now these all will be available in OCBIS and will be downloaded for private parties or public domain that will be a huge help for companies engaged in mineral investigation for educational institutes.



**Shri Sanjeev Trehan**

*Regional Manager, SAARC,  
Geospatial Division, Trimble*

Highlighted that even though spatial data is relevant in nearly every industry whether agriculture, construction, cadastral, rail environment, water utilities and as presented before in geological space as well yet, more often than not common citizen has to be explained that it is something that Google does, we create data for Google etc. He gave a glimpse of various solutions Trimble offers and welcomed discussions at its stall about the various technologies that can be used to capture and analyse the data that can be derived from field operations etc.



**Mr Rohan Verma**

*Chief Technical Officer, MapmyIndia*

In Emerging Technologies session spoke about the passion at MapmyIndia to make the world better through maps and technologies and more than the world first think of India. He pointed out that decades back India did not have a digital map infrastructure whereas the US, China and other governments had already invested a lot in digital map infrastructure. This was the driving factor for MapmyIndia to build digital maps for India. With this kind of passion to build maps and to make it beneficial for consumer, business and government, MapmyIndia is a 750 people organisation committed to do everything towards that mission. After spent 25 years for building the digital map for the country it is right to make a strong contention that really smart and readily smart cities, cars, apps three areas that are right for disruption which in return will make citizens, businesses and governance can become really and readily smart.



**Shri Mughlian RamaSwamy Co-**

*founder and Chief Designer  
Skylark Drones*

Made technology presentation in the session of Technology Show. As an enterprise drones solution provider Skylark Drone works on the model of build and operate UAVs which have 20kms of range. Skylark Drones have done projects in Mapping, Infrastructure for Maharashtra Govt., for Nagpur Highways, Karnataka Govt besides many mining clients so far. He further highlighted on all the solutions that it offers across the industry through a corporate video.



**Shri Nagendra Kannaswamy**

*Founder & MD  
Throttle Aerospace Systems*

Spoke in this session and gave a video byte of the product and technology offered by the company. Throttle Aerospace is an aerospace company located in Bengaluru having expertise in Aeronautical, GIS Mapping and other industry solutions. The Company is working on the innovation and the cutting edge technology and has already delivered 30+ high end products, solutions. It is a product based company represents itself as an OEM and manufacturers on the UAVs and accessories.



**Prashant S Alatgi**

*Head Technical and Business Development  
Prashant Surveys*

Recalled that Prashant Surveys have been into land survey and mapping for 25 years. Surveying earlier meant only plain table survey and it was not given so much of importance outside the surveying domain. Talked about the technology jump from plain table survey to total station 18 years ago as they were (presumably) were the first to take this lead to procure the Leica total station at that point of time. He pointed out that there is again now a tremendous technology that has come in the form of mobile LiDAR. His video byte presented how user friendly and how supportive the mobile LiDAR system is not withstanding a lot of related issues like extensive training in handling, lot of man power.



**Shri Hukum Singh Meena, IAS**

*Joint Secretary, DoLR*

In his Keynote Address gave a detailed backdrop of the National Land Record Modernisation Program(NLRMP) which has now been revamped as Digital Land Record Modernisation Program (DILRMP). He reminded that the basic objective mentioned in the guideline in the cabinet note is that through these activities, in NLRMP, we seek the approval of the cabinet to reach the conclusive titling as against the common perception held by many in government and industry that the basic objective and purpose of this programme is to computerise the land record, computerised the registration process, digitise the cadastral maps as per the nomenclature in the different states.



**Shri Saibal Dasgupta, IFS**

*DG, FSI*

In his Keynote Address gave a brief and overview of FSI which is a national level of organisation working under Ministry of Environment, Forest and Climatic Change. The primary task being to undertake the forest resource assessment of the country at the national level. He gave a brief history of the organisation in its journey from a little known pre investment survey of forest resources as a very small project based setup to becoming Forest Survey of India in 1986. Geospatial technology helps in identification and monitoring of encroachment of forest. HE further mentioned about FSI's e- green watch based monitoring system using remote sensing and GIS.



**Shri Rajan Aiyer**

*Managing Director, Trimble Navigation*

Gave a very brief but lucid description of state of geospatial technology when he compared it with state of IT industry. Computerisation in IT has become an integral part in our society and in our living. He mentioned geospatial technology is at the same nascent stage where IT was two decades ago and the application from what the experts talked about and has a huge potential.

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## Panel Discussion

**A Panel Discussion on Standard and Policies** was held with Maj Gen R C Padhi (Veteran) as moderator who initiated the discussion by drawing the attention to the relevance of the topic of panel discussion and introduced the panellists. He opened the deliberation by referring to recent initiatives like Draft Geospatial Information Regulatory Bill 2016 from MHA, Draft National Geospatial Policy brought out by DST and DGCA guidelines for UAVs and previous policies such as Remote Sensing Data Policy 2011, National Map Policy 2005, National Data Sharing and Accessibility Policy. There are couple of other policies Aerial Photography Policy. He mentioned that there are subtle provisions in some of the policies which probably contradict some or the other aspects of the other policies. Some policies are very good and progressive however there are certain gaps in policy frame work which is probably not meeting all the aspirations of the industry. Such discussions would help in determining and presenting before the government a feed back and suggested way the policy may be formulated that it helps the national security as well as helps in the national economic growth because both are complimentary to each other. Without good economic condition nation cannot have strong security.



**Shri P S Acharya**

*CEO, NSDI*

Said that the fundamental context for NSDI is standard as it has been working in this from last several decades. The geospatial data cannot be used without standards Infact during the implementation of the various R & D and other projects from DST, the issues of requirement of standards have clearly been brought out by all who have supported these projects. So many packages and data are available to the end users and data sets are coming from different sources but without standards it is not possible to put GIS and Geospatial Technology to effectively use them.



**Shri R C Mathur**  
*Chair, FICCI Committee on Geospatial  
Technology & Advisor ESRI*

Continued the discussion and dwelt on National GIS which is more in conceptual state at present. But National GIS operation would provide platform to deliver the range of geospatial information based services to the government, departments, users, citizen, business and everywhere else. National GIS is one of the projects where geospatial would be enabling technology in smart cities and AMRUT, JNNuRM, Clean Ganga Mission, Digital India and many other infrastructure projects road sectors, highways and so on, Geospatial Information would be one of the core technology and enabling technology that would ride these projects.



**Wg Cdr Satyam Kushwaha**  
*NSCS*

Highlighted some of the key issues from the national security perspective as it is very important for the industry to think about the national perspective and the govt has to understand the industrial perspective both have to go hand in hand when it comes to development. The first thing is to provide a strategic vision in any policy formation wherein the sum total of the national effort is also in terms of quality in terms of data that is being generated in the country what is the kind of education that is happening in the country specific to the geospatial domain everything has to happen with a national purpose this unfortunately has not been happening. HE emphasised that policies have been made with some of the aspects in terms of monitoring, in terms of steering mechanism and this aspect of strategic vision has to be brought up.



**Maj Arindam Gupta**  
*Survey of India*

Gave a brief on activities carried out by Delhi Geospatial centre in which Directorate of Air Survey was amalgamated in 2003. Presently 1:25K scale updation and verification of Delhi and NCR sheets is one very important thing right now. Another function is the security vetting of aerial photography data as well as deliverables. Any state/organisation which is doing the aerial photography, Delhi geospatial as the central agency is responsible for the vetting of this data. With streamlined processes the security vetting has been fast tracked. Archiving of Aerial Photography, done earlier by Air force, is now another function being undertaken by the centre which will be very useful for future.

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## Day 2

### 8 September 2016



**Shri R K Jain, CE, NWDA**

Gave a detailed presentation on 'Geospatial technology for ILR projects'. ILR is not a new project, it is continuation like any other project water resources project. Like in India there were ten such projects which were prepared way back 100 years back also and these projects are still working. Interlinking of River is a similar project like any other water resources project which can give multidirectional benefits like irrigation, hydro power generation, navigation, mitigation of flood and drought. The Government of India way back in 1982 has formulated the national perspective plan for interlinking of rivers. At the time of formulation of interlinking of rivers of programme there were 40 or more links were prioritized out of NWDA was created to give concrete shape to the national perspective plan. He shared the national vision of NWDA and projected water reservoir across the country. He highlights the proposition of diverting water to the drought prone areas in the future. NWDA plans to use geospatial technologies for survey investigation of the proposed links. NWDA is presently using UAV's and drones in north eastern region for survey investigation for better planning and implementation.



**Shri C R Garg**  
*Managing Director, DTC*

Shared his views on DTC who acts as a lifeline for Delhi. They manage movement of 400+ buses across the national capital. He emphasizes on the fact that GIS data is undoubtedly supports in efficient functioning of public transport making it more reliable for the public to use it. DTC plans establish Public Transport System using geospatial data for passenger information system to ensure more number of individuals to use DTC. It will provide the accurate information on the arrival of the buses on different bus stands. In future, DTC plans to monitor its operations through adoption of geospatial technology.



**Dr Arvind Gupta**  
*Deputy National Security Advisor*

Shared his views on the potential geospatial technologies hold in socio-economic development and national security as well. He mentioned the dynamics around us is changing rapidly and one factor is technological interventions. The basic technology of digitization of data has tremendously made an impact on the society and is one of the greatest achievement for the mankind. Mapping and surveying are important for national development contributing to national security. Maps are becoming ubiquitous and are been used from navigation to disaster management and what not all. He emphasizes on leveraging usage of maps for national development without compromising national security concerns. He believes it will revolutionary as the response time will be reduced in time of urgency. India with the rich history of cartography needs to position itself at forefront geospatial technologies. He believes that it is an appropriate opportunity to transform the survey and mapping ecosystem in the country.



**Shri Vishnu Chandra**  
*DDG & Group Head – RS & GIS, NIC*

Shared his thoughts on various governmental projects where survey and mapping play a crucial role. He mentioned the role of NIC in ICT infrastructural services for e-gov and planning through various platforms for citizen centric projects. HE mentioned that NIC is working with stakeholder organizations through updated software for the accurate data flow as per requirement. He believes that there is lack of awareness among the user community on the field needs to be relooked for capacity building. He emphasizes on the getting the accurate data with the help of stakeholders and the community involved through trained surveyors.



**Shri Yeshwanth Reddy**  
*Co-founder, COO*  
*Aarav Unmanned Systems*

Gave a presentation on UAV technology which has come to worldwide adoption for commercial usage of mapping and survey way back in 2011-2012 before that it was used for surveillance by defense and homeland security. He emphasized that the journey drones have covered from one sector to the main stream is remarkable and promising. He mentioned the usage of UAV can push the rapid development and show quick results. In his talk he recommends the adoption of this promising technology that has more to offer than just surveillance.



**Col A K Singh (Retd.)**  
*Director- BD*  
*RSI Softech India Pvt Ltd*

Spoke how the time has changed and how penetration and adoption of new technology has made the change. He believes UAV technology is providing leverage to explore potential and get results rapidly and in short time frame. He emphasizes that collection of data through UAV to be monitored keeping national security concerns in mind.



**Mr Richard Fox-Ivey**  
*Principal Consultant,*  
*Pavemetrics Systems Inc*

Gave a presentation on Pavemetrics that specializes in 3D vision systems for the automated inspection of transportation infrastructure. It is used in more than 35 countries around the world to automatically inspect roads, runways, railways and tunnels.



**Mr Yaozhong Wei**  
*Product Manager*  
*Hi-Target*

Gave a demonstrated potential and usage of Hi-Target equipment to support in natural emergency rescue support system. His presentation covered all the high-end features that provide technological support for quick response.



**Shri Anil NP**  
*Distribution Manager  
FARO India*

Showcased FARO terrestrial laser scanner and gave a presentation on evolution of land surveying equipment and the latest survey tools from FARO.



**Shri Gunjan Sachdev**  
*Senior General Manager and National Business Head  
Panasonic*

Demonstrated Toughbook and ToughPad. He mentioned about the product reliability and showed how these devices are appropriate for storing data collected during field survey.



**Mr Shrikrishna Shastry**  
*Country Manager, Ansari Precision  
Instruments*

Data solutions for present day challenges in infrastructural development. He gave an overview of the solutions and projects Ansari Precision is handling with advanced usage of geospatial technology.

## A Panel Discussion on Cadastral Survey



**Dr Bharat Lohani**  
*Professor, Civil  
Engineering, IIT Kanpur*

Emphasized that cadastral survey is crucial as it is backbone of Digital India project. The survey data we have for lot of states is old and was generated using conventional methods such as chain tape etc. In the present context geospatial community can play an enabling role by providing leveraging technology for the appropriate results.



**Dr. Sandeep Tripathi, IFS**  
*Chief Executive, ORSAC*

Shared the project experience relating to High-Tech survey under Digital India Land Record Modernization Program (DILRMP) among the different stakeholders in the government as well as industry sectors. He suggests enabling policy framework that can support usage of emerging and updated technology.



**Maj Gen P K Vachher**  
*(Retd.)*

Mentioned the issues related to survey and mapping activity and adoption of geospatial technology in developmental projects keeping national security concerns in mind.



**Shri Dheeraj Sharma**  
*Director  
GIS Consortium India*

Highlighted the need of skilled manpower and certified surveyors in the country to get accurate results for any developmental projects. He further elaborates the role academia and institutions can play in providing skilled manpower to the sector which has huge potential.



**Dr Ravi Kumar**  
*DVS, VP- Govt.  
IIC Technologies*

Shared the end user expectation & role emerging technology can play. He mentioned that there are challenges in surveying & opportunities due to the convergence of technology. He highlighted that capacity building is not at par with technology. He emphasized that there is need for trained professional to capture & process data for survey & mapping.