IGF

INDIA GEOSPATIAL FORUM

10-12 FEBRUARY 2015

HYDERABAD INTERNATIONAL CONVENTION CENTRE, HYDERABAD, INDIA

CONFERENCE REPORT

www.indiageospatialforum.org

Our Partners

| Strategic Sponsors |

Trimble

ROLTA

| Gold Sponsors |

FARO

Bentley Sustaining Infrastructure

| Silver Sponsors |

ADCC Infocad Limited

DigitalGlobe

| Co-sponsor |

IIC TECHNOLOGIES

| Supporting Organisations |

OGC Making location count.

Indian Water Resources Society

| Strategic Partners |

Ministry of Earth Sciences Government of India

Department of Science & Technology Government of India

nsdi National Spatial Data Infrastructure, Government of India

| Institutional Partners |

GITAM University

Bharthidasan University

Indian Institute of Remote Sensing

ITC

| Government Partners |

Coal India Ltd

Geological Survey of India

Neyveli Limited Corporation

Andhra Pradesh Forest Department

Andhra Pradesh Space Applications Centre

Haryana Space Applications Centre

Jharkhand Space Applications Centre

Karnataka State Council of Science and Technology

Karnataka State Remote Sensing Applications Centre

M.P Council of Science & Technology

Odisha Forestry Sector Development Project

Orissa Space Applications Center

Punjab Remote Sensing Centre

Remote Sensing Applications Centre, Uttar Pradesh

Telangana State Remote Sensing Applications Centre

| Country Partners |

National Land Commission of Bhutan

ICIMOD

Survey Department Govt. of Nepal

Urban Development Authority Sri Lanka

Department of Census & Statistics Sri Lanka

| Co-organisers |

Survey of India

nrsc

| Organiser |

GEOSPATIAL media + communications

Our Exhibitors


Trimble


PROUDLY
WELCOMES
GEOBUILD


IGF
INDIA GEOSPATIAL FORUM 2015
EXHIBITORS
10-12 FEBRUARY 2015
HYDERABAD INTERNATIONAL CONVENTION CENTRE, HYDERABAD, INDIA
AAM
ADCC
Bentley
ComNav
CYIENT
FARO
GEOMAX
HEXAGON
HITACHI
hp
JSAC
nrsc
MAPCODE
RIEGL
Trimble
Terrasolid
SOUTH
www.indiageospatialforum.org


IGF
TRANSPORTATION
AGRICULTURE
Trimble









Stegalit







IGF
INDIA GEOSPATIAL FORUM 2015



Participating Organisations (Indicative)

- AP Mineral Development Corporation Ltd
- AP State Development Planning Society
- AAM Pty Limited
- Aarvee Associates Architects Engineers & Consultants
- Accenture
- Access Architects
- ADCC Infocad Ltd
- Andhra Pradesh Agriculture Department
- Airports Authority of India
- Amity University
- Andhra Pradesh Power Generation Corp. Ltd.
- Andhra Pradesh State Road Transport Corporation
- Anna University
- Andhra Pradesh Forest Department
- Andhra Pradesh Space Applications Centre
- Transmission Corporation of Andhra Pradesh
- Atkins
- Autodesk
- Avineon India
- BAE Systems
- Bangladesh Space Research and Remote Sensing Organization
- Bentley Systems
- Birla Institute of Technology, MESRA
- Bhaskaracharya Institute for Space Applications & GeoInformatics
- Blackbridge
- Bharat Sanchar Nigam Ltd
- Central Coalfields Ltd.
- CE Info Systems (P) Ltd.
- Central Ground Water Board
- Central Research Institute for Dryland Agriculture
- Central Water Commission
- Centre For Railway Information Systems
- City & Industrial Development Corporation of Maharashtra Ltd
- Central Mine Planning & Design Institute
- Coal India Ltd
- ComNav Technology Ltd
- COWI India
- Central Pollution Control Board
- Cooperative Research Centre for Spatial Information, Australia
- Cyient Pvt Ltd
- Dar al Handasah Consultants
- DAT/EM
- Directorate of Town & Country Planning, Govt. of Telangana
- Department of Electronics & Information Technology, Govt of India
- Department of Forest and Wildlife Preservation, Govt of Punjab
- Department of Land Settlement, Rajasthan
- Department of Science & Technology, Govt of India
- Department of Information Technology, Jharkhand
- Department of Science and Technology, Andhra Pradesh
- Department of Science and Technology, Madhya Pradesh
- DigitalGlobe
- Director of Town and Country Planning, Govt of Telangana
- Ernst & Young
- Egis Geoplan
- Elcome Technologies
- Esri India
- Excel Geomatics
- FARO Technologies
- Andhra Pradesh Forest Department
- Geological Survey of India
- Geomax Positioning Systems
- GITAM University
- GMR Group
- Goa University
- Google India
- Andhra Pradesh Ground Water Department
- Gujarat Mineral Development Corporation
- Haridwar Administration - Mayor's Office
- Haryana Space Applications Centre
- HERE Maps (Nokia)
- Hexagon Geospatial
- Hitachi India
- Hyderabad Metropolitan Development Authority
- Hyderabad Metropolitan Water Supply & Sewerage Board
- HP India
- IIC Technologies Limited
- Indian Institute of Surveying & Mapping
- Indian Institute of Technology, Mumbai
- Indian Institute of Technology, Roorkee
- Indian Meteorological Department
- Indian National Centre for Ocean Information Services
- Indian Army
- Indian Bureau of Mines
- Indian Institute of Remote Sensing
- Indian Institute of Tropical Meteorology
- Indian Railways
- Indian School of Mines
- Indian Space Research Organisation
- Information Technology and Communications Department, AP
- Institute of Water Modelling
- Intergraph
- International Centre for Integrated Mountain Development, Nepal
- Irrigation & CAD Dept, Andhra Pradesh
- Information Technology & Communications Department, Govt. of AP
- ITC, The Netherlands
- Jaipur Development Authority
- Jamshedpur Utilities and Services Company Limited
- Jharkhand Space Applications Center
- Kalyani Global

2100+ Delegates

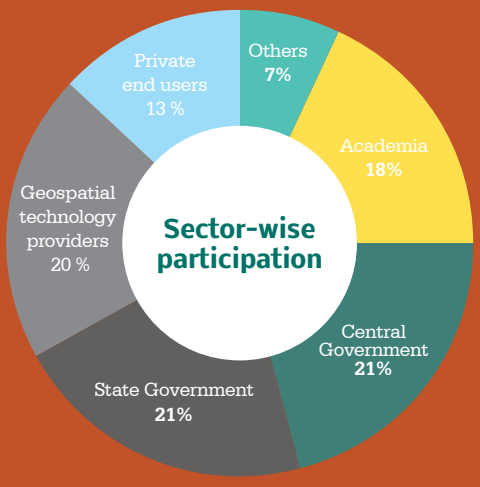
440+ Organisations

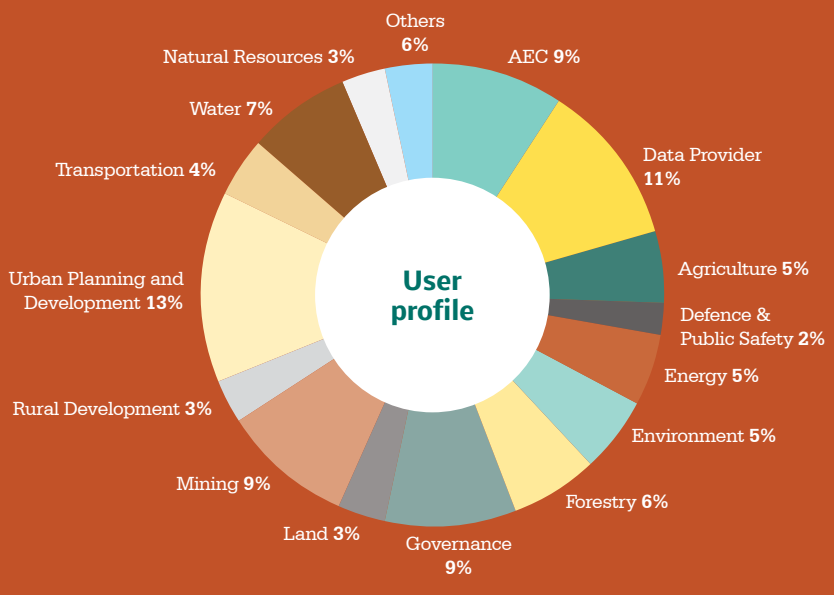
52 Exhibitors

43 Collaborative partners

- Karnataka Forest Department
- Karnataka State Council for Science & Technology
- Karnataka State Remote Sensing Applications Centre
- Kumaun University
- K K Geosystem Pvt Ltd
- Larsen & Toubro
- L & T Construction
- L1 Technologies Solutions Pvt. Ltd
- Land Commission Bhutan
- Lavasa Corporation Limited
- Leica Geosystems Ltd
- Lothhammer Zirn Consulting
- Lotus Wireless Technologies India Pvt. Ltd
- LRM Consultant
- Madhya Pradesh Council of Science & Technology
- Mahanadi Coalfields Ltd
- Mahanagar Gas limited
- Mahatama Gandhi Kashi Vidyapeeth
- Mahaveer Institute of Science & Technology
- Mahindra and Mahindra
- MANIT Bhopal
- Mapcode Foundation
- Matrix Geo Solutions Pvt. Ltd
- Agra Administration - Mayor's Office
- Aligarh Administration- Mayor's Office
- Gandhinagar Administration - Mayor's Office
- MC Design Consultants
- Andhra Pradesh Mission for Elimination of Poverty in Municipal Areas
- Microsoft India
- Military Survey
- Ministry of Defence
- Ministry of Earth Sciences
- Ministry of Municipalities and Rural Affairs, Saudi Arabia
- Madhya Pradesh State Planning Commission
- Manipur State Rural Roads Development Agency
- Municipal Corporation, Colombo, Sri Lanka
- National Aluminium Company Ltd
- National Housing Development Corporation Limited
- National Hydraelectric Power Corportation Ltd.
- National Hydrographic Office
- National Institute of Hydrology
- National Institute of Miners' Health
- National Rural Roads Development Agency
- National Water Development Agency
- Natural Heritage Division, INTACH
- NCC Limited
- NIIT GIS Limited
- National Institute of Rural Development
- National Institute of Technology, Warangal
- National Mineral Development Corporation
- National Remote Sensing Centre
- NTPC
- Odisha Forestry Sector Development Project
- Odisha Space Application Centre
- Open Geospatial Consortium
- OMCAR Foundation
- Oracle
- Osmania University
- Pan India Consultants
- Panchayati Raj Engineering Department - Govt of Andhra Pradesh
- Punjab Remote Sensing Centre
- Pricewaterhouse Coopers
- Rajasthan State Mines & Minerals Ltd
- Ramagundam Municipal corporation
- Rajasthan Avas Vikas & Infrastructure Ltd
- Regional Center of Anna University
- Reliance Jio Infocomm Ltd
- Reprographics India
- Chief Commissioner of Land Administration, Andhra Pradesh
- RIEGL Laser Measurement Systems, Austria
- RMSI
- Andhra Pradesh Transport Road and Buildings Dept
- Rolta India Limited
- RS Geoinformatics Solutions Pvt. Ltd.
- Andhra Pradesh Rural Water Supply & Sanitation Department
- Sastra University
- Satel Oy
- Secon Private Limited
- Satrec Initiative Imaging Services, Korea
- Sikkim Manipal University
- Skymap Global
- Survey of India
- South Precision Instrument
- SRM University
- St Xavier's College
- Stesalit
- Surat Municipal Corporation
- Survey of Bangladesh
- Swan Environmental
- Symbiosys Institute of Geoinformatics
- Tata Power Delhi Distribution Limited
- Tata Teleservices Ltd.
- Tata Consultancy Services
- Tech Mahindra
- Telangana State Remote Sensing Application Centre
- Terrasolid
- TomTom India Pvt Ltd
- Tricad Consultants
- Trimble
- University Centre for Earth & Space Sciences, University of Hyderabad
- UNIGIS
- University of Hyderabad
- University of Madras
- Uttar Pradesh Remote Sensing Application Centre
- University of Petroleum & Energy Studies, Dehradun
- Urthecast
- VIT University
- Western Coalfields Limited
- WWF Bhutan Program
- Center for Environmental and Geographic Information Services, Bangladesh
- Department of Forest Research and Survey, Nepal
- Regional Centre for Mapping of Resources for Development, Kenya
- National Institute of Ocean Technology
- ONGC

And many more...





INTRODUCTION

Every year, India Geospatial Forum serves as the premier annual conference for the Indian geospatial industry. As the geospatial technology continues to grow in importance and influence, this conference plays an integral role in keeping the professionals and users across the country connected and educated. The conference brings together diverse stakeholders of geospatial technology to engage and interact with each other to understand their needs, challenges, offerings, and come out with solutions to maximise the potential of this technology. The 17th edition of this conference, organised by Geospatial Media & Communications, was held during February 10-12, 2015, Hyderabad International Convention Centre, Hyderabad. The conference witnessed participation by 2100+ delegates, 440+ organisations, 150+ speakers and 52 exhibitors and proved to be an ideal platform to collaborate, learn and share.

With the theme "G-Revolution!," IGF 2015 brought to the fore the need for geospatial technology in facilitating an enabling work environment at national, state and local levels that is critical for the aggressive and inclusive growth path that India has set itself

on. The conference also witnessed deliberations on the requisites for successful implementation of the technology that can unleash its revolutionary power. The exhibition provided the delegates the latest and cutting edge offerings in geospatial technology.

IGF 2015 also witnessed a number of firsts for this conference. South Asia Geospatial Forum, organised with IGF, brought together the geospatial communities of SAARC nations. A very important conference of the geospatial industry, NSDI was co-hosted with IGF. IGF 2015 introduced Youth Forum, a platform for geospatial students and young professionals to showcase their work and interact with the industry experts to understand industry trends and gear themselves accordingly. IGF 2015 hosted in parallel the GeoBuild Infrastructure for Smart Cities which registered a healthy participation from mayors across cities in India to take forward the role of geospatial technology in Smart Cities.

The need for a forward looking, integrated, coordinated geospatial policy and capacity was at the core of the three-day conference.

India Geospatial Excellence Awards

LEADERSHIP AWARDS: WINNERS

Category	Winner(s)
1. Capacity Development	St Xavier's College, Mumbai
2. The Premier Geospatial State	The State of Odisha
3. Business Leadership	Rajesh Alla, Founder, Chairman and Managing Director, IIC Technologies
4. Making a Difference	Dr Prithvish Nag, Vice Chancellor, Mahatma Gandhi Kashi Vidyapeeth for bringing about the 'map culture' in India
5. Lifetime Achievement Award	Dr Rajendra Singh Pawar Chairman and Co-founder, NIIT Technologies Ltd

EXCELLENCE AWARDS: WINNERS

Sub Category	Winner(s)	Project
6. Application of Geospatial Technology in Utility Services	Tata Power Delhi Distribution Limited	Integration of Geographical Information System for Smarter Grid
7. Public Safety	Gujarat State Disaster Management Authority & Bhaskaracharya Institute for Space Applications and Geoinformatics (BISAG)	Bharuch Chemical Industry Disaster Management application
8. Environment Protection Monitoring and Management	OMCAR Foundation & NRDMS, Department of Science and Technology, Government of India	Participatory GIS mapping of Mangroves and Land-use Pattern in Coastal Villages of Thanjavur District, Tamil Nadu
9. Application of Geospatial Technology in Mineral Exploration	Gujarat Mineral Development Corporation & Scanpoint Geomatics	Manganese, Bauxite and Limestone Reserves Estimation
10. Effectively Implementing Policies	Karnataka State Council for Science and Technology & Department of Science and Technology, Government of India	Citizen centric Karnataka State Spatial Data Infrastructure portal

11. Rachapudi Kamakshi Memorial Gold Medal for Young Geospatial Scientist:	Nandini Ray Chaudhary, Scientist, Space Application Centre, ISRO

1

2

3

4

5

6

7

8

9

10

11

Inaugural Session

The largest conference in India on geospatial technologies and applications was formally inaugurated on 10th February 2015 by the stalwarts representing geospatial and allied technology providers, major users and policy makers

SANJAY KUMAR | CEO, Geospatial Media & Communications

In his encouraging Introductory Remarks, Sanjay Kumar, observed that the geospatial industry is going through the industrialisation phase. He emphasised that the recent initiatives at UN-GGIM and G20 meet recognise the importance of geospatial information, adding that the geospatial industry is estimated to be worth $150 billion.

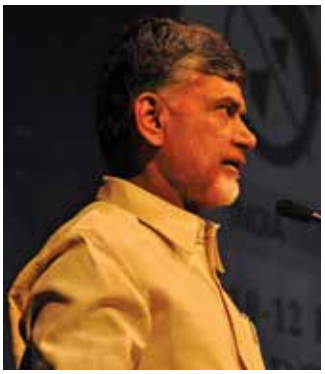
DR SHAILESH NAYAK | Secretary of Ministry of Earth Sciences

In his Guest Address, Dr Shailesh Nayak, remarked that the industry needs to discover new areas where geospatial technology can be used as a tool for better decision making. He reiterated the importance of capacity building and skill development for long-term growth of the industry, and added that high performance computing will provide a boost to the spatial data analysis solutions market.

K. VENKATARAMANAN | CEO & MD, Larsen & Toubro

In his thought provoking Keynote Address, K. Venkataramanan, observed, "The time is now for geospatial revolution. The predicted growth of geospatial technology is galloping. I believe if the technology is governed but not restricted, it will grow at a faster rate; especially in the field of precision manufacturing, infrastructure and disaster management." He opined that for the growth of geospatial technology in India, conducive policy environment and faster approvals are critical.

Guest Address



N. Chandrababu Naidu
Hon'ble Chief Minister, Andhra Pradesh

"I am here to support a special institution for geospatial education with government support. We should also look at promoting indigenous manufacturing of electronics. I invite the geospatial fraternity to contribute to it by setting up new operations in the state of Andhra Pradesh.," said N Chandrababu Naidu, Chief Minister of Andhra Pradesh in his inaugural address on the day one of India Geospatial Forum 2015.

CHRIS GIBSON | Vice President, Trimble

Chris Gibson, giving industry perspective, mentioned that the industry is going through a paradigm shift. Higher productive solutions have been fast replacing traditional technologies. He urged the industry to use technology as an enabler by integrating data collection, software and connectivity solutions.

RS SHARMA | Secretary, Department of Electronics and Information Technology, Government of India

RS Sharma talked about how lack of standards and a non-interoperable structure of spatial data collected under various programmes of the government have posed as a major hurdle in development story of India.

KK SINGH | Chairman and CEO, Rolta Group of Companies

Wrapping up the session, KK Singh reminded the delegates present at the conference that two-thirds of the world has still not been mapped – which is both a challenge and an opportunity for growth.

During his interaction with the delegates, he acknowledged the role of information technology in the developmental initiatives of the both the state and central government. He also emphasised that geospatial tools plays an imperative role in government's social initiatives as it ensures transparency and efficiency. Elaborating on how geospatial tools have been empowering government programmes, he spoke about the MoU signed by Andhra Pradesh government with the US for developing smart cities in the state. He also touched upon the Andhra Pradesh State Housing Commissions' programme to geo-tag homes to ensure transparency in various housing schemes of the state.

Plenary Session 1 Commoditisation of Technology

Justifying the theme of the conference "G-Revolution", the well-designed plenary session "Commoditisation of Geospatial Technology", witnessed leading technologists deliberate on the measures and ways of simplifying the technologies and taking it to the masses

BHUPINDER SINGH | Senior Vice President, Bentley Systems

Bhupinder Singh stressed on the importance of making geospatial technology cost effective and simplified. "There have been major advancements in varied technologies like laser scanning, smartphones, digital cameras and drones. New methods are replacing the traditional means of surveying," mentioned Singh. He also revealed that Bentley has recently acquired Acute3D for advance reality modeling.

BERT TURNER | Senior Vice President - Sales & Marketing, DigitalGlobe, US

Bert Turner highlighted the use of geospatial crowdsourcing in various causes like the Ebola outbreak. "Complex problems need investment to be solved," said Turner, adding that we shouldn't allow commodisation of imagery to deter innovation. He also informed the audience that there are 164 earth observation satellites orbiting the earth.

QUAH BENG CHIEH | Director-Asia Pacific, FARO

Quah Beng Chieh educated the delegates about the evolution of geospatial sensors and highlighted vital factors that drive commodisation: price; accuracy; simplicity; mobility. "From entire table of products to compact, light and affordable laser scanners, technology has come a long way. We are also working on something called 'FARO Scanner Freestyle' which would put laser scanning in user's hands," said Chieh. He ended his talk by pointing out the application of laser scanning in gaming, historical preservation and forensics.

Plenary Session 2 Empowering Government and Enterprises

To strike a good balance and present a well structured agenda, this plenary session addressed the application of geospatial technology to empower government and enterprises

J SATYANARAYAN | IT Advisor, Government of Andhra Pradesh

During his plenary address, J Satyanarayan revealed the importance of geospatial policy of the state of Andhra Pradesh and also mentioned that it was in the final drafting stage and would be soon opened for comments from public. He further elaborated on various programmes and initiatives of the state government that utilises various geospatial technologies.

RS PAWAR | Chairman and Managing Director, NIIT Technologies

Speaking to the delegates, RS Pawar said, "The silos of information that we generate has reached a point that if we interconnect them they will render a tsunami of data." He further urged the industry to develop and create technologies that solve real world problems.

CR SUDHIR | Executive Director (CNS - operations and Maintenance), Airports Authority of India

In the last plenary session of the day, CR Sudhir spoke about how GAGAN (India's SBAS system) augments the GPS signals to boost signal integrity and accuracy.

DR PG DIWAKAR | Deputy Director, National Remote Sensing Centre

Concluding the session, Dr PG Diwakar stressed that examining the maturity of government programmes to incorporate geospatial solutions is necessary. He, however, added, "While NRSC is attempting to empower government enterprises and programmes we need the industry to collaborate with us. Industry and enterprise solutions are the need of the hour."

Forestry

CHAIRPERSONS & PRESENTERS

- **Dr SPS Kushwaha**
  Head Forestry & Ecology Department, Indian Institute of Remote Sensing
- **Dr Sandeep Tripathi**
  CEO, Odisha Space Applications Centre
- **LK Tiwari & GV Rao**
  Odisha Forestry Sector Development Project
- **Shailesh Shankar**
  Sales Engineering (Asia Pacific), DigitalGlobe
- **Dr H C Mishra**
  APCCF (IT), Andhra Pradesh Forest Department
- **Prakash Mathema**
  Director General, Department of Forest Research and Survey, Nepal
- **G Rajshekar**
  Scientist "SF", Forestry Division, National Remote Sensing Centre

KEY TAKEAWAYS

- Application of geospatial s technology in forest resources management is essential
- Database generation on forest boundaries (forest blocks), wildlife sanctuaries, national parks, in digital mode, by DGPS is the need of the hour
- Most forest departments have established the GIS cell, but they have to be activated on most cases
- Capacity building of forest managers for geospatial technologies needs to be taken up
- There is a need to establish remote sensing /GIS cadre at the central government level to promote application of such technologies in a big way
- Quantification of ecosystem services from forests (including water, carbon, oxygen) is almost minimal. Protocols, methodologies and plans need to be set up for the same
- Preparation of working plan using geomatics should be made compulsory by Ministry of Environment and Forests and Climate Change
- New, emerging areas of climate change (REDD+) , desertification , biodiversity conservation need to be streamlined in the working of forest department
- There is a need to revisit the remote sensing data policy (restricting hosting of any data <1m) to allow 30 cm – 50 cm data on public platforms
- There is a need to develop a "National GIS policy" to facilitate smooth execution of geospatial technology in natural resources assessment

Integrated Water Resource Management

CHAIRPERSONS & PRESENTERS

- **Dr J R Sharma**
  Chief General Manager, RCs National Remote Sensing Centre
- **Dr M Prithviraj**
  Executive Secretary, Karnataka State Council for Science and Technology
- **DP Mathuria**
  Director, Central Water Commission
- **Dr Venkateshwara Rao**
  Group Director, Water Resources Group, National Remote Sensing Centre
- **SK Sinha**
  Scientist-D, Central Ground Water Board
- **Abhineet Jain**
  Regional Director - Sales Engineering, Asia Pacific region, DigitalGlobe
- **Paritosh Singh Chauhan**
  Consultant, IIC Technologies
- **M K Srinivas**
  Chief Engineer, National Water Development Agency
- **Venu Gopal**
  Director, AP Ground Water Dept
- **M Rajathurai**
  Bentley Systems
- **Jella Kiran**
  Scientist, Telangana State Remote Sensing Applications Centre
- **P Murugan**
  Scientist/Engineer ''SF'', ISRO Satellite Centre

KEY TAKEAWAYS

- Geospatial technology for groundwater applications allows for spatial distribution of groundwater in space and time, and spatial distribution of wells in different hydro- geological settings and agro climatic zones as well as temporal and spatial distribution of well yields
- In interlinking of rivers, satellite and aerial remote sensing and GIS analysis can help in assessment and visualisation of impact on the people and the ecosystem, as the environmental costs and human displacement involved is unimaginably high
- Aquifer mapping, helpful in sustainable management plan, will help achieve drinking water security, improved irrigation facility and sustainability in water resources development
- The need of the hour is training for use of Geo-ICT at local level in the country
- There is a need to establish mechanism for data sharing within the framework of data access policies, as well as refinement of methodology for assessment of ground water resources
- Mapping of high altitude aquifers is the way forward in ground water management
- India – WRIS (Water Resources Information System) is a 'single window solution' for comprehensive, authoritative and consistent data and information of India's water resources in a standardized national GIS framework for planning, development and management of water resources in the country.
- Water related services can be transferred to the community and/or private sector with statutory powers to collect and retain a portion of water charges, manage and maintain the distribution system in their jurisdiction
- Information in public domain must for water management
- Sharing data among the states is required for hydrological unit based planning
- Use of latest geospatial data in conjunction with SCADA system in urban water management is essential for water conservation

Climate change, weather systems and hazard management

CHAIRPERSONS & PRESENTERS

- **Dr Graeme Kernich**
  Deputy CEO, Cooperative Research Centre for Spatial Information, Australia
- **Dr Hussein O. Farah**
  Director General, Regional Centre for Mapping of Resources for Development, Kenya
- **Dr C S Jha**
  Group Director, Forest & Ecology Group, National Remote Sensing Centre
- **Birendra Bajracharya**
  Regional Programme Manager Mountain Environment Regional Information System (MENRIS) Technical Coordinator - SERVIR Himalaya International Centre for Integrated Mountain Development, Nepal
- **Milind Mujumdar**
  Scientist – D, Centre for Climate Change Research, Indian Institute of Tropical Meteorology
- **V Suseentharan**
  Scientist – D, Coastal Environmental Engineering Group, National Institute of Ocean Technology, Ministry of Earth Sciences
- **Dr Vaani**
  Assistant Professor (Senior), Centre for Disaster Mitigation and Management, VIT University, Vellore
- **Dr Kausalya Ramachandran**
  Principal Scientist & ICAR National Fellow, Central Research Institute for Dryland Agriculture

KEY TAKEAWAYS

- Once we know where our hazards are, we need to know where are people living, what's the risk and what/who is at risk, what's the level of exposure, who is vulnerable. Spatial information can address these issues
- Maps are worth thousands words. Outputs of climate projections can be effectively presented in interactive digital maps using GIS. Such maps can be investigated in relation to various boundaries, population intensity, digital elevation model etc. so as to formulate focused policies for adaptation
- Coupling of GIS, Climate projections and IT can be extremely helpful in developing robust vulnerability impact and assessment (VIA) systems which are of tremendous utility for developing adaptation policies.
- One of the key requisites in effectively using geospatial technology in climate change impact assessment and hazard management is making decision makers aware
- It is important that the data basis for geospatial in climate change and weather services should be good; hence more accuracy is required in meteorological instrumentation.
- Geospatial information is very important for hazard management because hazards are location specific. Risk analysis is needed for disaster management and supporting communication is very important for mitigation. Geospatial information is also very important for adaptation.
- Open source should be encouraged
- Needed sufficiently long, reliable data
- Empowerment of farmers is critical
- There should be integration of all information in a common platform
- Mobile should be the platform where all technology should go. Courtesy maps on phone, people are able to read maps
- There is a need for data products rather than thrusting data

Mining

CHAIRPERSONS & PRESENTERS

- **M Prabhakar**
  Chief Manager, Neyveli Lignite Corporation
- **B D Sharma**
  Addl Surveyor General, Survey of India
- **B N Rao**
  AVP - Lidar & Photogrammetry, ADCC Infocad
- **D U Vyas**
  General Manager (Geo & Tech.), Gujarat Mineral Development Corporation
- **Rajneesh Kumar**
  Chief Manager (Remote Sensing), Central Mine Planning & Design Institute Ltd
- **Alok Porwal**
  Prof – Centre of Studies in Resources Engineering, IIT Bombay
- **Dr Vinod Kumar**
  Group Head, Geosciences Group, National Remote Sensing Centre
- **Dr Ashutosh Roul**
  Sr. Manager – Mines, National Aluminium Company Limited
- **Rohtash Agarwal**
  Technical Director, KK Geosystems
- **Dr Dheeraj Kumar**
  Associate Professor, Indian School of Mines

KEY TAKEAWAYS

- There can be a quantum jump in actual resources estimation of lignite through exploration using GIS
- Large scale digital topographic database can result in sustainable planning & scientific design of coal mines
- LiDAR survey should be a mandate in the mining industry.
- There needs to be accuracy in coordinate transforms used in mapping
- Geospatial technology is useful in solving land acquisition problems in coal mining areas. Precision surveying and utilisation of temporal satellite data for legally accepted solutions to land ownership disputes and land acquisition.
- Mineral potential modelling can be GIS based to accrue benefits
- GPS-based truck dispatch system (TDS) can yield significant benefits in mining
- Geospatial enabled automated tools and techniques improve safety and productivity in metal mines
- Spatial accuracy is required for any mineral potential mapping. Such a modelling is possible only if geochemical , geophysical and geological databases , presently kept in silos with the national survey agencies are made publicly available
- Non availability of coordinate transform parameters for the SOI topographical maps leads to a lot of problems

GeoAgri

CHAIRPERSONS & PRESENTERS

- Mark Noort
  Director, HCP international and Editor- Agriculture for Geospatial Media and Communications
- Dr. R S Hooda
  Chief Scientist, Haryana Remote Sensing Centre
- Dr MVR Sesha Sai
  Group Director, ASAG, National Remote Sensing Centre
- Dr. Brijendra Pateriya
  Director, Punjab Remote Sensing Centre (PRSC)
- Dr. A. Arunachalam
  Pr. Scientific Officer to Secretary (DARE) & DG (ICAR)
- Dr. John Ahlrichs
  Vice President, International Sales, BlackBridge
- Dr. D. Raji Reddy
  Director-Research, PJTSAU, Hyderabad
- Rakesh Kumar Kadian
  Trimble Navigation

KEY OUTCOMES

- Agriculture is a dynamic sector, whose performance depends on several factors like technology at the topmost level, govern¬ment policies, environmental factors, market forces and global factors.
- There is need for convergence of these factors like geospatial and IT technology at global, policy, market and environmental level which would transfer the agriculture sector.
- More accurate and reliable crop estimates help reduce uncertainty in the grain industry.
- Satellite sensors provide valuable database to arrive at suitable decisions in maintaining productive capabilities of Agriculture.
- Geospatial tools have very significant role in Agricultural land use/ land cover mapping, Wastelands/ Land Degradation Studies, Crop acreage and production estimation, Preparation of sustainable land use plan, Crop damage due to natural disasters, Mapping ground water resources and many more.
- Geospatial applications to agriculture have grown to a stage where such inputs are used for number of policy level decisions for food security, poverty alleviation and sustainable development.
- In India, the vast potential of Geospatial technology has been used and good knowledge base has been created over the years.
- Currently the potential of GIS have not been utilized fully for Precision farming in India due to some technical challenges like small farm holdings, diversity of crop and field to field variability.
- Government agencies have now started focusing on village and farm level studies using these technologies.
- For an economy like India, development activities demand a new paradigm, governance and technology command to bring about considerable change.

Emerging applications & trends

CHAIRPERSONS & PRESENTERS

- **Dr. Prithvish Nag,**
  Vice Chancellor, Mahatma Gandhi Kashi Vidhyapeeth
- Animesh Pandit
  Senior Group Manager, Rolta
- Anant Kumar
  HP India
- Wg Cdr P K Mishra
  Indian Air Force
- H Hemanth Kumar
  Fellow & Principal Investigator – NRDMS, Karnataka Council for Science & Technology
- Dr P G Diwakar
  Dy Director, National Remote Sensing Centre
- Kewal Shienmar
  Managing Director, Mapcode Foundation
- D K Prabhuraj
  Director, Karnataka State Remote Sensing Applications Centre
- Vikram Jasrotia
  Business Development Manager, Elcome Technologies Pvt. Ltd
- Nirmalendu Kumar
  Director, Survey of India
- Mohd Sajid Idrisi
  Conservation Biologist, Natural Heritage Division, Indian National Trust for Art and Cultural Heritage
- Aravind AS
  Scientist, National Remote Sensing Centre

FOCUS AREAS

- The changing paradigms of public safety management
- Innovation in aviation database generation to enhance flight safety. Charts and digital maps are the modern requirements for air navigation
- Development of state GIS portals
- Leveraging geospatial big data
- Network RTK using Master- Auxiliary Concept
- New opportunities offered by continuous operating reference station network with VRS technology
- Identifying the location – the new ways to find addresses in India
- 3D Modeling and visualisation of city objects
- The importance of national data registry and the benefits of data generators data and services catalogues
- Emergency Response System data terminals for the safety of the citizens on mobile GIS platform
- Free and open source GIS, mobile GIS and data collection tools for conservation biologists
- The way forward for geo-web Services

Geobusiness & location intelligence

CHAIRPERSON & PRESENTERS

- **Vinod Bothale**
  Group Director, Geoportal and WebGIS Services, National Remote Sensing Centre
- **Pramod Kumar Parida**
  Scientist, Odisha Space Applications Centre
- **Siva Ravada**
  Director of Development - Spatial Technologies, Oracle
- **Dwaipayan Dighal**
  Senior Regional Manager, Hexagon Geospatial
- **Rajesh Paul**
  Director, Excel Geomatics
- **Marutish Varanasi**
  Consultant, TriCAD

KEY TAKEAWAYS

- Bhuvan, the enabling platform for locational intelligence, offers high spatial resolution of 2.5 meter across the country an 1 m meter resolution and 269 cities have been populated and counting
- Web-based Power Atlas System for electric utilities facilitates the officials to obtain spatial and attribute information on electrical assets and power line areas by different search options and lead to better decision-making
- Knowing the spatial distribution of population at local level serves as the fundamental parameter for location intelligence; geographic visualization and analysis with marketing techniques and insight can help sell a product or provide efficient services to the customer
- Crowd sourcing can enable rich GIS by using citizen's feedback as the prime source of data gathering. It tries to rectify the loopholes in provision areas that are deficiently providing required services. It allows user to anonymously report about the pitfalls of any stated services
- Big data technologies including analytical data processing, lead by graph databases, Google Map APIs, open source software such as R, analytics and visualization software can enable smart city platforms
- Spatial analytics and demonstration on selected areas is key to map driven filters, or prompts, in BI dashboards

Remote Sensing & Photogrammetry

CHAIRPERSON & PRESENTERS

- **Dr R Nagaraja**
  Director, NRSC Data Centre
- **Dr Senthil Kumar**
  Group Director, Geophysical and Special Products Group, National Remote Sensing Centre
- **Dr C D Murthy**
  Sr. Div. Director, Rolta
- **Dr Sultan Singh**
  Senior Scientist, Haryana Space Application Center
- **Pankaj Gupta**
  Enterprise Geospatial Manager, Middle East, Africa and SAARC region, Trimble
- **P Prakash & Aswini Kumar Das**
  Asso Project Managers, Telangana State Remote Sensing Applications Centre

FOCUS AREAS

- Societal benefits of remote sensing in areas including monitoring sea level rise, disaster management, ecological disasters, atmospheric chemistry,
- Space technology advancements and emerging scenario in earth observation
- Emerging geospatial trends in smart city modelling. Intelligent 3 D Building Modeling is very important
- Establishment of geodetic control network for Land Records
- Photogrammetry suites including land and aerial mobile mapping solution
- Development of open source Web GIS based geospatial application for rural water supply and sanitation

Laser scanning

CHAIRPERSON & PRESENTERS

- **P Srinivasulu**
  Group Head, Aerial Services and Digital Mapping Area, National Remote Sensing Centre
- **Sunil Krishnan**
  Manager Geospatial, Trimble Navigation India
- **Anil N P**
  Distribution Manager, FARO India
- **Adesh Dhar**
  Product Manager, Elcome Technologies Pvt. Ltd
- **David Jonas**
  Business Development Manager – Asia, AAM Pty Limited
- **Michael Mayer**
  Assistant Director International Sales, RIEGL Laser Measurement Systems GmbH, Austria
- **Hannu Korpela**
  Sales Manager, Terrasolid Ltd, Finland

KEY TAKEAWAYS

- While the regular airborne LiDAR applications seem to continue to hold their share for large area coverages, the domain which was dominated by helicopters for low level flying and corridor mapping appears to be challenged by light weight but sophisticated laser sensors which can be mounted on UAVs
- Terrestrial and hand held lasers are going to find a major market share in providing wide variety of solutions from simple construction monitoring to complex applications of city flythrough models. They are going to dominate the applications which demand frequent updates of data
- In urban applications, LiDAR seems to be a better choice for change detection in buildings and infrastructure
- It is very clear that the industry is driving the applications with its innovative variety of laser scanners and associated software

NRDMS

CHAIRPERSON & PRESENTERS

- **Dr Bhoop Singh**
  Head – NRDMS & NSDI, Ministry of Science & Technology
- **Dr P S Roy**
  Geospatial Chair Professor, Centre for Earth & Space Sciences, University of Hyderabad
- **K S Rajan**
  Head - Lab for Spatial Informatics, Associate Professor, International Institute of Information Technology
- **Dr V.Balaji**
  Director, OMCAR Foundation
- **Dr R Sivakumar**
  Co-ordinator- Earthquake Research Cell & Associate Professor Department of Civil Engineering, Faculty of Engineering & Technology, SRM University
- **Dr Valli Manickam**
  Chairperson, Environment Area, Administrative Staff College of India
- **Prof J S Rawat**
  Director, Centre of Excellence for NRDMS in Uttarakhand; Professor & Campus Head in Geography, Kumaun University
- **Prof Gopal M. Naik**
  Professor & Chairman Board of Studies, Department of Civil Engineering & Nodal Officer (Academic), TEQIP-II, UCE (A), & Joint Director, Directorate of Academic Audit Cell, Osmania University
- **Dr B.Naveenchandra**
  AGM (GIS), Information Technology Project Circle, Bharat Sanchar Nigam Ltd
- **Dr B C Kusre**
  Associate Professor (Irrigation and Drainage Engg), College of Agricultural Engg & PHT, Central Agricultural University, Ranipool, East Sikkim

KEY TAKEAWAYS

- Land use and land cover change research for global change science
- GIS mapping of submerged aquatic vegetations, associated fish assemblage and sediment distribution in Northern Palk Bay, Thanjavur District, Tamil Nadu
- Hydrogeomorphological studies of Bellary Taluk, Karnataka through integrated geological and geospatial approach
- Opportunities and challenges in open government data initiatives
- Developing Uttarakhand geoportal for decentralised governance in Uttarakhand
- Application of geoinformatics & electrical resistivity survey for the study of disaster impact on earth resources due to lightning
- Mapping of natural resources and developing strategy for water resources management in Sikkim
- Urban watershed runoff modeling using geospatial techniques

Bhuvan User Workshop

PRESENTERS

- **Dr P G Diwakar**
  Deputy Director, National Remote Sensing Centre
- **Vinod Bothale**
  Group Director, Geoportal and WebGIS Services, National Remote Sensing Centre
- **M Arul Raj**
  Manager, Bhuvan Web Services Development, National Remote Sensing Centre
- **Rajkumar Shrivastava**
  IFS, Dept. of Forest, Government of Karnataka

Bhuvan is the online Geoportal managed and developed by NRSC ISRO. It allows user to view 2D/2.5D/3D representation of the earth's surface in photo-realistic textured models with a distinct viewing/animation experience. Bhuvan workshop was specially tailored for novice as well as experienced delegates to familiarize them with Bhuvan offerings and the underlying technologies used.

YOUTH FORUM

As a part of the agenda an exclusive Youth Forum was organised. The forum brought the required impetus in strengthening the capacity of youth and provided a window of opportunity to the young minds and budding geospatial professionals, researchers and entrepreneurs to showcase their abilities through their research papers or product/ application development. More than 100 young students and entrepreneurs, eminent academics, prominent industry leaders and successful professionals adorned the forum and shared their rich experiences with geospatial education, research, applications and employment opportunities. The forum also introduced a cash prize for the 'Best Student Paper' presented in the forum to encourage young students towards geospatial research and as well as G-Innovative Award to encourage young app developer. The winners are P. Gopi (MSc UNIGIS India), V. Sakthi Kirthi (Anna University, Chennai), Natasa Chowdhury and Shruti Menon (Symbiosis Institute of GeoInformatics, Pune) and C Madhumathi / K. Sridevi (Anna University, Tirunelveli).

Parallel Conference
SOUTH ASIA GEOSPATIAL FORUM

The Forum hosted an inaugural session, session on geospatial technologies, directions and standards; emerging geospatial applications; and a panel on exploring avenues for collaboration.

FORUM SPEAKERS & MODERATORS

- **S Subba Rao**
  Surveyor General of India
- **Basantha Shrestha**
  Director for Strategic Cooperation and Regional Programme Manager, ICIMOD, Nepal
- **Shaheen Khan**
  Chairperson, Bangladesh Space Research and Remote Sensing Organisation
- **YS Chowdary**
  Minister of State for Science and Technology & Earth Sciences
- **Mark Riechard**
  President and CEO, Open Geospatial Consortium
- **Srinibas Patnaik**
  Senior Director, SAARC, DigitalGlobe
- **Dwaipayan Dighal**
  Senior Regional Manager, Hexagon Geospatial, India
- **M.Rajathurai**
  Bentley
- **Sanjeev Trehan**
  Regional Manager, SAARC, Geospatial Division, Trimble Navigation India
- **Maj Gen (Dr) R Siva Kumar**
  Vice Chancellor, GITAM University
- **(Eng.) Thamara**
  Deputy Municipal Commissioner, Colombo, Sri Lanka
- **Engr. Md Waji Ullah**
  Executive Director, CEGIS, Bangladesh
- **Yeshi Dorji**
  Head-Land Registry, Bhutan Land Commission
- **Dr. P.G. Diwakar**
  Deputy Director (RSA) National Remote Sensing Centre
- **Anne Kemp**
  Director - BIM Strategy and Development, Atkins
- Sensing Applications Centre

PANEL DISCUSSION RECOMMENDATIONS

- Indentified areas of priority that need attention are:
  - Disaster management and mitigation
  - Poverty eradication
  - Capacity Building
  - Data Sharing
  - Crime management
- There is a need to integrate technology platform
- To streamline the data sharing process, there is need for data standardisation
- There should be a formal legislation for geospatial data
- There should be common projection, co-ordinate system and cartographic symbols
- Need to attract more international attention and support for various initiatives by SAARC nations in the field of geospatial domain
- Need for inter-sectoral and interdisciplinary collaborations amongst SAARC nations
- Collaboration amongst NGIOs in disciplinary fashion
- Creation of working group for SAARC geospatial community
- Establishment of local geospatial industry is much needed
- Need to chart sustainable development goals for the growth of region

Parallel Conference
NSDI 2015

PRESENTERS

- **Dr Bhoop Singh**
  Head (NRDMS-NSDI), Department of Science & Technologyt
- **PS Acharya**
  Scientist 'G' & CEO, NSDI
- **Pankaj Mishra**
  Survey of India
- **R. N. Nanda**
  NSDI/ Survey of India
- **Sunil Kumar Bohra**
  Geological Survey of India
- **Smriti Upadhyay and Dr A Sudhakar**
  Central Pollution Control Board
- **H Hemanth Kumar**
  Karnataka State Council for Science & Technology
- **Dr Sandeep Tripathy**
  CEO, Orissa Space Applications Centre
- **Prof N L Sarda**
  Advanced Lab on GISE, IIT Bombay
- **B P Awasthi**
  Chief Engineer (TMS), Northern Railway, Ministry of Railway
- **K S Bhusan**
  General Manager (Geology), Oil & Natural Gas Corporation Ltd
- **Vishnu Boorla**
  Intergraph SG&I India Pvt. Ltd
- **Krishna Rao**
  Esri India Pvt Ltd
- **P G V Ramana Reddy**
  Vice President, Avineon India Pvt Ltd
- **Raghavendran S**
  DGM Technical (GIS), Pixel Softek Pvt Ltd

DELIBERATIONS ON

- Overview of the present status of SDIs - transitioning from an 'enabling' to a 'performing' Infrastructure
- Concepts, scope, architecture, and approach for National Data Registry for NSDI
- Status of provision of GIS data assets of Survey of India
- Geological data assets of Geological Survey of India and the data content standards, with emphasis on GSI metadata on NSDI portal and the OGC compliant services
- Re-engineering of environmental management data and provision of data services
- Development of GIS applications for end users using OGC web services from Karnataka Geoportal
- Data Sharing Policy in support of an SDI and a State GIS in Odisha
- Relevance of National Data Registry in the Development of GIS applications using NSDI Data Services
- Use of standards-based spatial data and services in improving management of Indian Railways assets and passenger services
- Utilization of Spatial data services in the construction and maintenance of oil and gas pipeline network
- Industry Support to Development of SDIs in India
- Experiences, challenges in setting up Spatial Databases and Services
- Addressing bottlenecks to GIS interoperability which is key to spatial data sharing
- Global best practices - Australian approach to SDI

Parallel Conference
GeoBuild Infrastructure

SPEAKERS

- **Anamika Das**
  Director - Commercial Research and Policy Advocacy, Geospatial Media and Communications
- **Jon Fingland**
  Business Unit Director, Trimble General Contractor & Construction Manager Division
- **Mark Reichardt**
  President and Chief Executive Officer, Open Geospatial Consortium, Inc. (OGC)
- **Ram Gopal Mohle**
  Hon'ble Mayor, Varanasi
- **Dinesh Sharma**
  Hon'ble Mayor, Lucknow
- **Niranjanbhai B. Zanzmera**
  Hon'ble Mayor, Surat
- **Mark Schneider**
  Global Technical Director - Utilities & Mapping, Bentley Systems
- **N.S.N. Murty**
  Associate Director and Smart Cities Leader, PwC
- **Jugal Makwana**
  BIM Manger – AECOM, Singapore
- **Suryakkanta Kabi**
  Senior GIS Systems Analyst – AECOM India
- **Gora Mboup**
  President & CEO, Global Observatory linking Research to Action (GORA)
- **Kaushik Chakraborty**
  Vice President, Strategic Alliances and Global Business Development, Hexagon Geospatial
- **Anne Kemp**
  Director, Atkins - BIM Strategy and Development, Atkins Global
- **Sreedhar Saraswathi**
  Business Head – South Asia, ARCHIBUS
- **D.T.V. Raghu Rama Swamy**
  Director, School of Infrastructure, Research & Institutional Consultancy and Former, CEO iDeCK (Karnataka)
- **Ravi Prakash Gupta**
  Head – Information Technology, DIMTS
- **Vinaybabu Adimulam**
  Sr. Business Manager – Intelligence, Public Safety & Security, IntergraphERDAS India
- **Prashanth Bachu**
  Project Manager - Urban Transport, EMBARQ
- **Satish Kamat**
  Deputy City Manager, Lavasa Corporation
- **Gijsbert Noordam**
  Product Manager, Bentley Systems
- **Shamanth SN**
  Senior Manager, Hitachi India
- **B.N. Rao**
  Associate Vice President - LiDAR and Photogrammetry, ADCC Infocad
- **Dhruva Rajan**
  Founder and Technology Director, Geospoc
- **Pushpa Gamage**
  Director (IS & GIS), Urban Development Authority, Sri Lanka
- **KVRK Ravi Kumar**
  Additional Chief Planner, CIDCO
- **Sunil Joshi**
  Vice President, Neilsoft
- **Jay Shah**
  Director, Access Architects
- **Kaval Kumar**
  GIS Specialist, MEPMA, Telangana

KEY TAKEAWAYS

- The essence of a smart city lies in investment in human and social capital and traditional as well as modern ICT communications infrastructure to fuel sustainable economic growth and a high quality of life through wise management of these resources facilitated by a participatory governance.
- To bring of the vision of smart cities in to a reality, there is a definite need to create a connection between people, buildings and assets and network and we can do that through devices, sensors, mobile phones, etc. Some of the key enablers for this are – BIM, Geospatial, Wokspace management and ICT and analytics.
- The standards community is been working with cities around the world to create a series of indicators that talks about integrating the physical, digital and human systems into a built environment to deliver a sustainable and prosperous and inclusive future for its citizens.
- There is a greater need to create an 'umbrella-system', wherein, all the stakeholders involving the central government, the state government and the local government need to move out of their silos and work collectively towards this smart infrastructure developmental initiative.
- The true urban rejuvenation in India will revolve around - Water Management, Sewage Management and the overall Infrastructure improvement and GIS Mapping has to be the first step towards this initiation.
- DMIC's development mandate across its entire project life cycle is built around a 3D, BIM and GIS driven approach.
- The future demands an improvement in interoperability, information exchange mechanism, use of more cutting-edge technological devices and this is where organizations such as OGC

and BuildingSmart needs to step in to streamline the standards for the same.

- As the rate of urbanization is continuing to out-pace development, sustainable city-foundation, social inclusion in the planning, and strong institutional regulations can help to avoid endless urban expansion and proliferation that will eventually help to make a city smart.
- Geospatial Information and Technology provides patterns and analytics which when combined with the power of computing and big data allows us to make better decisions in infrastructure planning.
- UK has defined BIM as a puposeful management of information through the whole life cycle of an infrastructure project so that it's context may be considered not just within an organization, but, also across the whole system. It will be healthier and wiser to think it from a regional and a global perspective rather than just from an organizational standpoint.
- The as-built infrastructure has to be improved through a strong emphasis on institutional structure and financial structure to support which will ensure the adoption and acquisition of right technology to facilitate modern infrastructural developmental goals.
- In transportation sector, geographic location plays the most critical role as it is the definitive source for obtaining you analytics data based upon location. Whether it is land acquisition, facilities, networking, assets, creating the internet of sensors, connecting sensors, etc., Geospatial is the founding stone for all the infrastructure that we are trying to build.
- Utilities infrastructure can be designed on the basis of three ways - CAD, GIS and Utilities GIS.
- BIM needs to be looked at as a fundamental philosophy to optimize your resources during pre construction, during construction and also, during situations when you would need to scrap or, dismantle the project completely.

TESTIMONIALS

IGF was a very good event, there should be more programmes like this.

K Venugopal, Manager, Reliance Communications

By attending this conference, we get to improve our own knowledge and see latest developments in all sectors.

Umesh Kumar Tiwari, As. Meteorologist, Indian Meteorological Department

The conference provided a lot of food for thought and use of GIS technology in a better way.

Saikat Mukherjee, Manager - GIS, JUSCO Ltd

IGF as always is a spectacular event. It facilitates interactions with various departments, industry and service providers.

Dr. Kaushalya Ramachandran, Principal Scientist & ICAR National Fellow, Central Research Institute for Dryland Agriculture

IGF 2015 was a very well organized event.
Thank you

Birendra Bajracharya, Regional Programme Manager, MENRIS, ICIMOD, Nepal

It is an excellent forum of brilliant people. Congrats! Very well done!

YB Sharma, Executive Engineer, Central Ground Water Board

We were enriched with knowledge on scanners. The exhibits in the stalls gave various inputs on latest technologies in geospatial area.

Dr V Gunasekhar Reddy, Professor, Mahaveer Institute of Science & Technology

The Forum facilitated new knowledge and collaboration.

Deki Wangmo, GIS Officer, WWF Bhutan Programme

We get a lot of exposure to the latest technology at IGF

Y. Srinivas Rao, Senior Manager - IT, APSRTC

We get detailed knowledge about what we have heard of and get to know that the foreign clients are working in India at the government level.

JK Meena, Dy Manager, NTPC


IGF
INDIA GEOSPATIAL FORUM 2015
Programme Schedule
10-12 FEBRUARY 2015
THEME: G-REVOLUTION!
11 FEBRUARY, 2015, WEDNESDAY
12 FEBRUARY, 2015, THURSDAY
www.indiageospatialforum.org