

# The Institution of Engineers (India)

"98 Years of Relentless Journey towards  
Engineering Advancement for Nation-building"



## Thirty-second National Convention of Computer Engineers on **"Application of IT in Rural Development"**

February 24-25, 2018, Ahmedabad

Organised by



The Institution of Engineers (India)  
GUJARAT STATE CENTRE

Under the aegis of Computer Engineering Division, IEI

In association with



Computer Society of India

Ahmedabad Chapter

Supported by



Venue

Bhaikaka Bhavan, Law College Road, Ahmedabad -380006,  
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# About The Institution of Engineers (India)

The Institution of Engineers (India) or IEI is the largest multidisciplinary professional body that encompasses 15 engineering disciplines and gives engineers a global platform from which to share professional interest. IEI has membership strength of above 0.8 million. Established in 1920, with its headquarter at 8 Gokhale Road, Kolkata-700020, IEI has served the engineering fraternity for over nine decades. In this period of time it has been inextricably linked with the history of modern-day engineering. In 1935, IEI was incorporated by Royal Charter and remains the only professional body in India to be accorded this honour. Today, its quest for professional excellence has given it a place of pride in almost every prestigious and relevant organization across the globe. IEI functions amongst professional engineers, academicians and research workers. It provides a vast array of technical, professional and supporting services to the Government, Industries, Academia and the Engineering fraternity, operating from 121 Centres located across the country. The Institution provides grant-in-aid to its members to conduct research and development on engineering subjects. IEI conducts Section A & B Examinations in different Engineering disciplines, the successful completion of which is recognized as equivalent to Degree in appropriate field of Engineering of recognized Universities of India by the Ministry of Human Resources Development, Government of India. Every year as many as 90000 candidates appear for these exams. For details, please see: [www.ieindia.org](http://www.ieindia.org).

## About the Gujarat State Centre

The Institution of Engineers (India) Mumbai State Centre opened a Local Centre at Ahmedabad in the year 1959 after which this was established as Gujarat State in the year 1960. This Centre is one of the most vibrant State centers of IEI. The foundation stone of building was laid by Hon'ble Governor of Gujarat K. K. Vishwanathan and the inauguration of the building was done by Shri Babubhai Jashbhai Patel, The then Chief Minister, Govt. of Gujarat. State Centre building bears the name of the building as 'Bhaikaka Bhavan', after the eminent engineer of Gujarat Shri Bhailalbhai Patel. Enriched with an excellent infrastructure in with library with 15000 books associated with small AC conference hall of 50 audiences, AC board room with a capacity of 30 people with full audio-visual aids. Sitting capacity of hall is approximately 375 people. With Dias/stage to accommodate 15 dignitaries. The Gujarat State Centre acts as a centrally located, state of art platform to justify the aims of IEI to serve a total corporate members strength of approximately 6000.

## About Computer Society of India, Ahmedabad Chapter

Formed in 1965, the CSI has been instrumental in guiding the Indian IT industry down the right path since its formative years. Today, the CSI has 72 chapters all over India, 511 student branches, and more than 100000 members including India's most famous IT industry leaders, brilliant scientists and dedicated academicians. The mission of the CSI is to facilitate research, knowledge sharing, learning and career enhancement for all categories of IT professionals, while simultaneously inspiring and nurturing new entrants into the industry and helping them to integrate into the IT community. The CSI is also working closely with other industry associations, government bodies and academia to ensure that the benefits of IT advancement ultimately percolate down to every single citizen of India. To help achieve these goals, the CSI has several Special Interest Groups (SIGs), and various initiatives pertaining to affordable computing and the spread of computer literacy. CSI constantly endeavors to forge strong relationships, agreements and affiliations with leading IT associations around the world. As a professional body, the CSI encourages and supports research and development projects in information and communications technologies. Publicity to projects of high relevance to the industry is provided via the CSI's journals, periodicals and website. The CSI has also been partially funding the participation of Indian IT professionals at renowned international IT conferences.

### **Computer Society of India – Ahmedabad Chapter**

The Ahmedabad Chapter of CSI started functioning during 1969 and today it has expanded its wings for flying in the world of research and innovation by organizing seminars, conferences, public talks on different subjects, student awareness programs and many more, and as a result, since the last five years, CSI Ahmedabad Chapter receives "Best Chapter Award" under region III.

# About Ahmedabad

Ahmedabad is the biggest city of Gujarat, lies on 23.03 North Latitude and 72.58 East Longitude on the bank of River of Sabarmati. The city is well connected by rail, roads and airways with all the important cities of the country. It is Seventh largest city of the Country. Ahmedabad is now a district head quarter and many state-level and district-level offices are located in the city. City of Ahmedabad is unique even for India, for it bleeds harmoniously as ancient heritage with a vibrant present. A model city in terms of its ideals and aspirations, what is remarkable about Ahmedabad is its harmony between art and industry between a reverence to the past and a vision for the future. Dubbed as the Manchester of India in the days of yore. Ahmedabad is again at the crossroads in the history of its existence. Change came in the form of an announcement of Finance Minister declaring Ahmedabad as one of the mega cities of India. The path of the mega city status is fraught with challenges but keeping in mind the entrepreneurial nature of the citizens of Ahmedabad the city is bearing up to take up the challenge and truly acquire the status of MEGACITY.

## About the theme of the Convention

Application of IT in Rural Development is an interdisciplinary topic. Using National Convention platform the researchers, policymakers, industry, faculties and students will be benefited by the fruitful discussions and deliberations in the ICT trends, its implementation issues and future challenges in the agricultural and allied sectors especially in dairy science and fisheries.

These sessions will also focus on recent trends and advancements in agricultural bio-informatics, NGS data analysis, proteomics and genomic data analysis, IoT, e-governance initiatives by different government departments and decision support systems in agricultural and rural development domain.

The papers presented in this convention will provide an opportunity for interaction and knowledge sharing among young researchers, students and scientists. The broader topics covered under this session would be:

## Objectives

### **Ergonomics**

An applied science concerned with designing and arranging things people use so that the people and things interact most efficiently and safely called also biotechnology, human engineering, human factors.

### **Geo informatics Application**

Geo-informatics Technology Applications in planning, monitoring, modelling, and decision support systems of Watershed, MGNREGA, Agriculture Development, Environmental Impact Assessment, Conservation practices, Resources Planning, Infrastructure Development and Village Planning.

### **ICT Infrastructure for Rural e-Governance**

'Infrastructure' is relevant to many sectors agriculture, health, education, transportation, energy and technology. The infrastructure that we are referring here is directly related to Information and Communication Technologies (ICTs). The government role is to 'serve citizen' and 'govern' smoothly and deliver public services efficiently. With two decades of ICT experience, Indian governments designing effective ways of communications to reach the masses. There are still few obstacles to set up required ICT infrastructure for government to deliver public services via multiple channels.

### **Integration of Spatial and Non-spatial Database for Rural Applications**

Information system has been generated for the district showing the village map with its boundaries and the relevant census information containing eco-socio-economic dimensions. VLIS tool, with a motto 'turning data into information', generated in the present study integrating the spatial village maps with non-spatial or tabular information can be

demonstrated for its potential for grass-root level development planning taking into consideration the local needs and constraints. It has also established its usefulness to the decision-makers in the district to generate views/scenarios for decision-making at local-level. This prototype Community GIS tool will serve as a first step towards the development of Decision Support System for decentralized planning at district/sub-district level.

### **Big Data for Rural Comprehensive Information Service**

The impact of big data is enormous virtually in every business sector. The usage so far has been more focused on the e-commerce and marketing sectors. But the wide reach of big data can provide much more innovative, profitable and yet beneficial solutions for many perennial problems faced by different sectors. Rural India plays a vital role in economic growth of the country through agriculture, self-employment, construction, services, etc. The developments in telecommunication sector provide suitable platform for applying data analytics in rural India. The focus of the Government to build digital India through broadband highways connecting every household, village, panchayat, Government department will generate huge amount of data which can be analyzed to provide solution to the never ending problems of rural India and to create smarter villages.

### **Applications of Cloud Computing and IoT for Rural development**

ICT are transforming all human activities, including agriculture which is the mainstay of rural India. ICT is a powerful and productive system which can accelerate economic and social development in rural areas. We discuss in this issue, how this new age technology is helping rural India live a better life. Cloud computing coupled with use of IoT can be helpful for the rural development in terms of rural population in overcoming the huge costs incurred the infrastructure and software. It can lead rural area development as well as economic progress of nation. In India 73% population lives in the rural areas and villages.

### **Farmer Behaviour Change and Innovation Adoption**

The aspect of information access has received increasing attention, especially in terms of the potential role of Information Communication Technology (ICT) to connect farmers with the information they need. ICT has already been shown to have the capacity to dramatically expand communication and improve access to information (and facilitate monetary transfers). However, the question more recently has been, how can the promise of ICT be realistically harnessed to help the world's rural poor?

### **Comprehensive Digital Financial Services**

With the increase of smart phones and internet users, the opportunity to launch successful Digital Financial Services in India is growing fast. New tools for banking, mobile payments, personal wealth management, and more, have been rapidly sprouting up in India and the rest of Asia. Join us for a deeper look at these services in the region. What is making the biggest advances? Where are the setbacks? What can we expect next? Join us in this exciting discussion to emphasize technological trends, industry demands, and best-practice strategies. The market is evolving so be among the pioneers in the changing face of the industry.

### **ICTs and Regional Climate Change**

The science of climate change, which has developed over the last century or so, has benefited greatly from the parallel development of ICTs. The typical locations for climate research such as the polar ice caps, glaciers, volcanoes, the ocean bed or the upper layers of the atmosphere are inhospitable and remote monitoring and data collection using ICT-equipped sensors (telemetry) is essential for research. Even more useful has been the development of aerial photography, satellite imagery, grid technology and in particular the use of global positioning by satellite (GPS) for tracking slow, long-term movement.

## **Call for Papers**

Original contributions from researchers describing their original, unpublished, research contribution which is not currently under review by another conference or journal and addressing state-of-the-art research are invited to share their work in all areas of Application of IT in Rural Development and its applications in field for engineering and management but not limited to the conference tracks.

Submissions of high quality papers in all areas of Application of IT in Rural Development and its applications. The submissions needs to submitted to [aird2018@gmail.com](mailto:aird2018@gmail.com)

**Last Date for Paper Submission - 15 February 2018**

# SUB THEMES OF THE SEMINAR

ICTs applications adding value to rural development perspectives and sub theme around the below shown matrix.

To From	Individual/Citizen	Business	Administration
Individual / Citizen	C2C Citizen to Citizen e.g. social networks, e-communities	C2B - Citizen to Business Citizens as clients access to marketplaces or businesses. Citizens as employees	C2G Citizen to Government e-government (access of citizens to public services e.g. tax offices)
Business	B2C Business to Citizen e.g. e-marketing, e-commerce, e-banking	B2B - Business to Business e.g. e-commerce, networking - virtual enterprise	B2G Business to Government (access of businesses to public services)
Administration	G2C Government to Citizen e-government provision of public services	G2B - Government to Business e-government	G2G - Government to Government e-government G2E - (e-governance2government to employee)

Added objective of the seminar is to assist participants in building a framework of ideas which are sufficiently adaptable to accommodate the more complex problems encountered in using the modern computing methods. The seminar will benefit engineering consultants, designers & owners to review current practices, technology and to develop solutions to meet the challenges. Technical papers will be compiled into a Special Publications.

## Who can participate

- Academicians and students
- Private Organization and Companies
- Consultants
- R&D Organizations
- Government Organization
- Manufacturers and trading organizations
- Application and development based organizations
- Participation from Solution Providers

## Registration Fees

Category	Member	Others
IEI / CSI / IEEE / IETE Students	500/-	750/-
Academicians / M. Tech	1000/-	1500/-
Industry Professionals	1500/-	2000/-

## Sponsorship

- Sponsorship of Rs. 50,000/- will be eligible with five free delegates.
- Industry, Government and Semi Government Organizations, Mfg. are requested to sponsors various activities of the Seminar.

## Publications/Souvenir

E-proceedings of the seminar will be published incorporating all the expert lectures, and synopsis of the selected Mobile Applications for the competition during the seminar. Advertisements in the publication as souvenir/sponsors, shall be as below. These tariffs for advertisement are as follows.

- Full page Rs. 10000/- and half page Rs. 7000/-

## Accommodation

There are various hotels available for accommodation. Participants are requested to book on their own or ask for Assistance to the organizing secretary.

# Registration Form

Name \_\_\_\_\_

Designation \_\_\_\_\_

Organization/Institution \_\_\_\_\_

Mailing Address \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

E-mail \_\_\_\_\_

Registration Fee Rs. \_\_\_\_\_ Paid in \_\_\_\_\_

Cash/ Cheque/D.D.No. \_\_\_\_\_ Dt. \_\_\_\_\_

of Bank \_\_\_\_\_

## Category:

- Member of IEI / CSI / IEEE / IETE  
 Student Member  
 Others  
 Academicians / M Tech Students  
 Industry Professional  
 Non Members

Date:

Place:

Signature

## PAYMENT

- Please send the attached registration form, duly filled in along with appropriate registration fees through a crossed demand draft.
- All payments are to be made through crossed Demand Draft / Cheque, drawn in favour of
- The Institution of Engineers (India), GSC.  
Bank Of India, Navrangpura Branch, Ahmedabad  
Account No.: 200920100001133 IFSC Code: BKID0002009

## Address for Registration

[gujaratsc@ieindia.org](mailto:gujaratsc@ieindia.org) or [os@csiahd.org](mailto:os@csiahd.org)

## Other Communication

**Er. B. S. Patel, FIE**

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Mihir Chauhan, Global Research Foundation

## Program Sequence

Time	Event	Time	Day II
	<b>Day I</b>	9.30	High Tea
9.30	Inauguration		Technical Session - III
	Tea Break		Technical Session - IV
	Technical Session - I	12.00	Lunch Break
13.15	Technical Session - II		Technical Session - V
	Lunch Break		Tea Break
	Presentation - I	16.00	Valedictory Session
	Tea Break		
	Presentation - II		