



# The Indian Engineer

With public sentiment, nothing can fail. Without it, nothing can succeed : Abraham Lincoln  
 Nobody Plans to Fail. But Everybody Fails to Plan. Plan Your Work to Seek Perfection : Socrates

NEWSLETTER OF THE ENGINEERING COUNCIL OF INDIA

Volume : 8 - Issue : 1

March, 2014

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## Message from the Chairman



Engineering Council of India (ECI) is celebrating its 12th Foundation Day on April 4, 2014 when Eminent Engineer Awards will be conferred. The Jury Chaired by Dr. V. Krishnamurthy, Chairman, National Manufacturing Competitiveness Council (NMCC), Government of India, with Dr Kirit S. Parikh, Dr. R.A. Mashelkar, Shri. B. Muthuraman and Shri A. C. Wadhawan as its distinguished members, has selected the following Eminent Engineers for conferring the Award this year : Shri N. R. Narayana Murthy, Executive Chairman, Infosys Limited and Dr. Baldev Raj, President, Research PSG Institutions, Coimbatore & Former Director, IGCAR. The Awards will be presented by the Chief Guest, Dr C. Rangarajan, Chairman, Economic Advisory Council to the Prime Minister.

In the earlier issues of the Indian Engineer I had referred to the Public Notice of the Council of Architecture (COA) dated May 20, warning individuals and companies not registered as architects against practicing profession of architecture, which as I had pointed out, was a misinterpretation of Architects Act and the joint action was initiated by the Engineering Council of India (ECI), Consulting Engineers Association of India (CEAI), Indian Association of Structural Engineers (IAStructE), Association of Consulting Civil Engineers, India (ACCE (I))- all member associations of ECI. As a part of this joint action, representations were made to the concerned ministries, namely, Ministries of Corporate Affairs and Human Resource Development with copies to the Ministry of Law and Justice. Necessary legal steps have also been taken, as required. There have been some favourable judgements. Recently, Hon'ble Delhi High Court has, vide the Judgment pronounced on 23rd September 2013 (in the matter of W.P.(C) 2106/2012 – Premendra Raj Mehta and Ors versus National Building Construction Corp. Ltd & Ors), clearly stated that the Architects Act, 1972 does not restrict the practice of architecture or architectural consultancy to only registered architects. Some other legal proceedings are continuing.

Recently, ECI received a copy of the order of the Hon'ble Delhi High Court dated February 18, 2014 wherein the High Court has ordered that an independent structural engineer shall be nominated by the President (Chairman), Engineering Council of India, who may examine all relevant aspects of the case as detailed in the order of the Court. This was an important development and it showed that the ECI was getting recognition as the apex professional body of engineers. Action was taken to comply with the order of the Hon'ble Delhi High Court. A copy of the order was forwarded to the concerned member associations of ECI, suitable names of structural engineers invited, and after receipt of names, these were compiled and forwarded to the concerned agencies, as required.

  
 (Uddesh Kohli)

### Engineering Council of India (ECI)

ECI is organizing a focused 5th one-week training programme on Project Management for Engineers, which was earlier scheduled to be held in February, 2014, will now be held during April 14-18, 2014 at India International Centre, New Delhi. The programme will be for engineers engaged on projects in corporate organizations, central and state governments. For details visit [www.ecindia.org](http://www.ecindia.org), or send a mail to [eci@ecindia.org](mailto:eci@ecindia.org).

### Computer Society of India-EAIT 2014

CSI, Kolkata Chapter will organize 4th International Conference-2014 on Emerging Applications of Information Technology (EAIT 2014) during December 19-21, 2014 at the Indian Statistical Institute, Kolkata. CSI jointly with the PSG College of Technology, University of South Australia is also organizing an International Conference on Information Systems & Computer Networks - ISCON 2014. For details visit [www.csi-india.org](http://www.csi-india.org) or send a mail to [hq@csi-india.org](mailto:hq@csi-india.org).

### Mining Engineers Association (India) (MEAI)

MEAI is organizing "All India Exploration Geologists Meet" on August 21-22, 2014 at Hyderabad. The objective of the meet is to develop the requisite knowledge and managerial competence of all professionals working in mining and mineral-based industry as a part of 'Competence Building Mission' with focus on sustainable mining. For details send a mail to : [meai1957@gmail.com](mailto:meai1957@gmail.com)

### Indian Geotechnical Society (IGS), IGC-2014

IGS is organizing Indian geotechnical conference and exhibition on the theme: Geotechnics for inclusive development of India (GEOINDIA) during December 18-20, 2014 at Jawaharlal Nehru Technological University, Kakinada, APF. For details send a mail to [kramujntu@gmail.com](mailto:kramujntu@gmail.com), [baburd1108@hotmail.com](mailto:baburd1108@hotmail.com), or, visit website: [www.igc2014kakinada.org](http://www.igc2014kakinada.org)

### Institute of Technology & Management Universe (ITMU), Vadodara

ITMU organized a two-day National Seminar on "Innovations In Robotics" – IIR-2014 during March 14-15, 2014. Eminent professors from various IITs and experts in the field of Robotics shared their vast experience and knowledge regarding the contemporary innovations and future trends in Robotics. The seminar was well attended by the academia, the industry, the research scholars and students.

## From the Editor's Desk



**Engineers and technologists will have to play a major role in meeting the strategy challenges of faster growth in the 12th Plan and beyond.**

The core theme of the 12th Five-Year Plan, reportedly, is faster and more sustainable inclusive growth with likely investment of more than I trillion dollars. Around twelve strategy challenges have been identified by the Planning commission. These include enhancing the capacity for growth and skills and faster generation of employment, managing the environment, decentralization, empowerment and information, technology and innovation, securing the energy future for India, accelerated development of transport infrastructure, rural transformation and sustained growth of agriculture, managing urbanization, improved access to quality education, better preventive and curative health care, and markets for efficiency and inclusion.

India needs to grow at 9-10% annually on a continuous basis for 15-20 years. This will need investment resources including public resources, its efficient allocation with emphasis on higher investment in infrastructure. We know that economic growth realized so far has not generated enough employment. Many sectors of our economy have been facing workforce shortages, particularly of skilled technical workforce. We need multidisciplinary and multi skilled technical workforce of international quality, particularly diploma and degree engineers. We need more M.Tech engineers and PhDs. We need to improve our education and training systems; create efficient and accessible labour markets for all skill categories; and encourage the faster growth of small and micro enterprises. We need to ensure that our development is sustainable. For this, inter alia, we need technological and organizational innovation. We need to encourage innovations by providing incentives for successful innovations, and then we need to suitably recognize these. We also need to ensure diffusion of innovations in academia and government as well as in enterprises of all sizes- every where in the economy. We know that the faster and more inclusive growth will need a rapid increase in energy consumption.

We will have to meet this need equitably, affordably, and sustainably. Our transport infrastructure is inadequate and at places inefficient which is the reason for our lower efficiency and productivity, higher transaction costs, and insufficient access to our large national market. We will have to create an efficient and widespread multi-modal transport network. We need to develop an efficient and sustainable rural infrastructure. Our metros and cities are with inadequate social and physical infrastructure; and these metros and cities are also facing worsening pollution. We will have to make our cities more livable.

The lower agricultural growth has perpetuated food and nutritional insecurities. Consequently, rural incomes have fallen resulting in more rural poverty. Educational and training facilities have been increasing rapidly. However, access, affordability, and quality remain serious concerns. Employability is also an issue. Our health indicators have not improved as fast as other socio-economic indicators have. A good healthcare is unavailable (rural and semi rural areas) or is unaffordable (largely). Engineers and technologists have a major role to play in meeting these strategy challenges.

The bottom line is that we also need to ensure a greater and more involved participation of engineers and technologists in the institutional decision-making process for realizing these strategy challenges.

We need also to regulate the engineering profession in India for making engineers and technologists accountable to the society inter alia by providing ethics based-service.

(P.N. Shali)



## Eminent Indian Engineer : Dr. Srikumar Banerjee

Dr. Srikumar Banerjee is an Indian distinguished nuclear scientist and a metallurgical engineer. He is a world-renowned physical metallurgist who made seminal contributions to the study of phase transformations in zirconium and titanium based alloys. He retired as the Chairman, Atomic Energy Commission of India (AECI) and the Secretary of Department of Atomic Energy ('DAE') on April 30, 2012. Prior to his stint as the Chairman AECI, he was the Director of Bhabha Atomic Research Centre (BARC) from April 30, 2004 to May 19, 2010. Dr Banerjee's **academic and research achievements** are many. This list is both impressive and large. Dr Banerjee's thesis was on martensitic transformation in zirconium alloys. His studies on phase transformation in zirconium alloys covered a spectrum of solid-state transformations, including crystallography of martensitic transformations, thermodynamic prediction of metastable phase reactions, mechanisms of hybrid displacive and replacive transitions; interstitial ordering, vitrification and crystallization. He studied phase transformations under conditions far from equilibrium. Dr Banerjee has shown that several first-order phase transformations can occur through the formation and subsequent amplification of fluctuations in terms of concentration waves, displacement waves and their combinations providing description of the early stage of the nucleation process. He established stability domains of the order-disorder phases under irradiation. His **other contributions include** setting up of an internationally recognized research group on Phase Transformation at BARC, organizing, as Director, BARC, research in nuclear fuel cycle, initiating capacity building activities both in front and back end of the nuclear fuel cycle, design of innovative reactors, applications of radiation and isotope technology in agriculture, health care, and food preservation and industry. He is one of the leading experts in material science and technology in India and has made outstanding contributions to many materials related areas, basic as well as application oriented.



### Academic Positions Held

Dr. Banerjee has held visiting positions at University of Sussex, Brighton, UK (1978-79), Max-Planck Institute for Metallforschung-Institute fur Physik, Stuttgart, Germany (1979-80), and University of Cincinnati, USA (1992), the Ohio State University and Forschungszentrum, Juelich, Germany. He is a fellow of the Academy of Sciences for the Developing World (TWAS). Dr. Banerjee is a Fellow of a number of august academic bodies including Indian National Science Academy, Indian Academy of Sciences, Indian National Academy of Engineering, and the National Academy of Sciences, India, and Maharashtra Academy of Sciences. He was on the Board of Nuclear Power Corporation of India Ltd. from October 2004 to November 2009.

### Awards and Honours

**The President of India conferred on him the prestigious civilian award Padma Shri in 2005.** In recognition of Dr. Banerjee's important research contributions, he has been the

recipient of many awards and honours. The list is very large, indeed, some of the important awards have been covered here. These include: Indian National Science Academy (INSA) Young Scientist Medal (1976), National Metallurgists' Day Award (1981), Shanti Swaroop Bhatnagar Prize in Engineering Sciences (1989), INSA Prize for Materials Science (2001), MRSI-Superconductivity and Materials Science Prize (2003), Indian Nuclear Society Award (2003), Distinguished Alumnus Award of IIT, Kharagpur (2005), and MRSI Distinguished Materials Scientist of the Year Award (2008). Excellence in Science and Technology Award From Indian Science Congress Association (2009), Ram Mohun Puraskar of Rammohun Mission for outstanding contribution to Nuclear Science (2010), National Metallurgist Award (2010), MRSI – CNR Rao Prize in Advanced Materials, MRSI (2011), M N Saha Birth Centenary Award from the Indian Science Congress Association (2012), the Indian Institute of Metals Platinum Medal (2012). Doctor of Science (Honoris Causa) was conferred on him from Burdwan University, West Bengal (2005), Sathyabama University, Chennai (2010), Bengal Engineering and Science University, Shibpur (2010), Guru Ghasidas University, Chattisgarh (2010), Indian Institute of Technology, Kharagpur (2010), University of Calcutta (2010), Shri Venkateswara University, Tirupati (2011), Indian School of Mines, Dhanbad, Jharkhand (2011), Mangalore University, Mangalore (2012). Besides, he has also received international awards and honours. Some of the notable among these include: Acta Metallurgica Outstanding Paper Award (1984), Humboldt Research Prize (2004), President Citation of American Nuclear Society (2012) and W.J. Kroll Zirconium Medal Award from ASTM (2012).

### Publications

Dr Banerjee has published more than 350 scientific papers in reputed international and national journals. Some of these publications are regarded as landmark contributions in the field of materials science. His book 'Phase Transformations: Examples taken from Titanium and Zirconium Alloys' is a comprehensive treatise on the subject.

### Appointed Chancellor

Dr. Srikumar Banerjee has been appointed as the first Chancellor of the Central University, Kashmir.

### Other Appointments

Chairman, Board of Governors of IIT Kharagpur for the period 2014-2017. Chairman, Governing Board, Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune (2012-2015), and a Member, Executive Council, Visva Bharati, Shantiniketan, Kolkata.

Dr. Srikumar Banerjee obtained a B.Tech degree with honours in metallurgical engineering from the Indian Institute of Technology (IIT), Kharagpur in 1967. Thereafter, he underwent training at the training school of BARC. He joined the erstwhile metallurgy division of BARC in 1968 and spent his entire scientific career in this establishment. On the basis of the work carried out by him in the first few years of his career in BARC, he was awarded the PhD degree in metallurgical engineering by IIT, Kharagpur, in 1974.

## News from the Member Associations

### Association of Consulting Civil Engineers (India) - ACCE(I)

The Gujarat Centre of ACCE(I) organized a national colloquium jointly with the L.D. College of Engineering Ahmedabad with the theme: current challenges to civil engineering on February 22, 2014 at Ahmedabad. The colloquium was very well attended both from the industry and academia and the students. The Mysore centre jointly with the Karnataka Geotechnical Centre of the Indian Geotechnical Society, National Institute of Engineering, Mysore and Sri Jayachamarajendra College of Engineering organized a one day seminar on recent advances in geo techniques for infrastructure- RAGI 2014 on March 15, 2014 at Mysore. The seminar was also very well attended.

### Broad Cast Engineering Society (BES)

BES organized BES EXPO 2014: 20th International Conference and Exhibition on Terrestrial and Satellite Broadcasting, during January 14-16, 2014 at Pragathi Maidan, New Delhi. The event was very well attended and large body of visitors visited the exhibition.

### Computer Society of India (CSI)

An international Conference on Communication and networks was organized by the CSI, Coimbatore Chapter and CSI Division - IV on March 14 -15, 2014 at P.S.G. College of Technology, Coimbatore. It was well attended.

### Consulting Engineers Association of India (CEAI)

CEAI successfully organized a national workshop on "Environmental Clearances - Issues, Constraints, Compliances and Solutions" on February 7, 2014



at the PHD Chamber of Commerce, New Delhi. Mr. A S Brara, GC Member, CEAI and Chairman & Managing Director, Mantec Consultants Pvt. Ltd., was the Chief Coordinator of the workshop. Mr. Paritosh Tyagi, former Chairman, Central Pollution Control Board and eminent environmentalist delivered the keynote address. Dr. P B Rastogi, Director, Ministry of Environment & Forest delivered a special address and briefed the delegates about the views of MoEF. The workshop was very well attended both by the industry and academia. A two-day seminar on "**Introduction to Design of Blast Resistant Structures**" was jointly organized by CEAI in association with Baker Engineering and Risk Consultants, Inc. USA,



Accord Engineering Services, India, Indian Association of Structural Engineers (IAStructE) on March 7-8, 2014 at New Delhi and on March 10-11, 2014 at Mumbai. The objective of these seminars was to bring the international best practices for the benefit of engineers in India; and the focus was given on the procedures and practices used in the analysis, design and retrofit of structures subjected to blast loads from accidental, industrial and terrorist explosions. These seminars also delved on the provisions of UFC 3-340-02 'Structures to Resist the Effects of Accidental Explosions' (2008) and the recently revised ASCE Publication and vastly updated ASCE Code dealing with Blast Resistant Designs. These programmes were also very well attended.

### Construction Industry Development Council (CIDC)



The National Institute of Open Schooling (NIOS), established by the Ministry of Human Resources Development, Government of India and Construction Industry

Development Council (CIDC), established by the Planning Commission, Govt. of India, have announced Vocational-cum-Academic Integrated Program in "Construction Supervision (Civil)" Session 2014 - 2015. The programme is aimed at providing the opportunity for all persons working or otherwise engaged elsewhere to acquire skills in construction trades and allied courses which will provide gainful opportunities for employment and entrepreneurship. CIDC has started a new batch of NSFDC scheme for Bihar state. An interview was conducted by CIDC committee to select trainees under NSFDC scheme from schedule castes category on Jan 6, 2014. One hundred and two (102) candidates appeared in the interview and seventy eight (78) were selected for the training. The training was started on January 8, 2014. A placement meet was organized by the Gorakhpur Training Center of CIDC to provide job to trainees of CIDC on January 11, 2014. Representatives of M/s Shobha Developers Ltd, M/s TDS Realty Limited, M/s Bhagirath Infraventures Pvt Ltd conducted the interview to select the candidates.



### Indian Association of Structural Engineers (IAStructE)

IAStructE in association with Autodesk & Capricot delivered a technical presentation on the topic "Structural Design workflow using Building Information Modeling (BIM)", on February 25, 2014 at Annexe Building, K K Birla Marg, India International Centre, Max Mueller Marg, New Delhi-110003.



### **Indian Institute of Chemical Engineers (IChEs)**

The Northern Regional Centre of IChEs organized one-day conference on: Protective Coatings for Corrosion Prevention on March 22, 2014 at New Delhi. The seminar covered topical latest developments in the corrosion prevention area. It was very well attended by both the academia and the industry.

### **Indian Building Congress (IBC)**

Nominations for the IBC Awards for Excellence in Built Environment 2012-13 were invited to be presented during IBC's Annual Convention held in January, 2014. For details on these awards visit [www.ibc.org.in](http://www.ibc.org.in), or send a mail to [info@ibc.org.in](mailto:info@ibc.org.in).

### **Indian Institution of Industrial Engineering (IIIE)**

The Delhi Chapter of IIIE observed its Foundation Day on January 27, 2014 with the chosen theme of Competitiveness through Industrial Engineering. Dr. Uddesh Kohli, Chairman, Engineering



Council of India and Senior Adviser, UN Global Compact was the Chief Guest and Dr. Reena Ramachandran, former Chairman and M.D., Hindustan Organic Chemicals and presently Member, Task Force on Performance Management, Cabinet Secretariat, was the Guest of Honour. On this occasion, the Delhi Chapter of IIIE felicitated Shri G.C. Narang, one of the senior members, entrepreneur and a former Chairman, IIIE (Delhi Chapter). A panel discussion followed which was chaired by Dr. Reena Ramachandran, and the deliberations were moderated by Shri P.N. Shali, Director, Engineering Council of India. Prof. K.K. Muthu dwelt on the theme of "IE an historical perspective and way ahead"; Prof. D.K. Banwet, Emeritus Professor, IIT (Delhi) addressed the issues relevant to the profession, including the given nomenclature; and Dr. Vinay Kumar, former Senior Adviser, Ministry of Science & Technology stressed on the importance of technology for enhancing competitiveness.

### **Indian Concrete Institute (ICI)**



ICI jointly with the Construction Chemicals Manufacturers Association (CCMA) organized the 3rd edition of International Construction Chemicals Conference during March 21-22, 2014 at Chennai Trade

Centre, Chennai. The emphasis of the conference was on improvements at the time of construction, repairs, strengthening, rehabilitation and protection from future deterioration. Construction chemicals positively contribute to the high quality and durability of any construction. The construction chemicals industry in India is currently at a

nascent stage; and it is growing fast. As per the available figures, the industry size is estimated at Rs 3,200 crores; and it has the potential to grow to Rs 7,000 crores by 2016. The growth in the construction industry, combined with faster and safer construction, will propel the growth for the construction chemicals industry. In India, the industry currently represents a combination of organized and unorganized sector. An exciting line-up of industry captains, research scholars and industry veterans disseminated vital information on the emerging materials, methods and practices that are taking shape in the construction chemicals sector today. Delegates who attended the conference benefited from an insightful program balanced with an opportunity to create an ideal networking opportunity that is bound to unite the industry together in its quest for excellence.

### **Indian Society of Agricultural Engineers (ISAE)**

January-March months were full of events for ISAE which helped to promote the achievements of our profession. It started with the national symposium in Hindi by CIPHET & ISAE on "Khadya Prasanskarana Evam Prabandhan: Udyamiyon Ke Liye Swaroggar Kee Sambhavanayen" organized during January 28-29, 2014, followed by the Tractor & Agricultural Machinery Manufacturers' Meet held during February 8-9, 2014 at Indian Institute of Sugarcane Research, Lucknow, and the 48th Annual Convention of Indian Society of Agricultural Engineers & International Symposium on "Engineering Intervention for Conservation Agriculture" held during February 21-23, 2014. Other important initiatives started by our members was creation of NGOs for promotion of Agricultural Engineering by Dr. Bangali Baboo and Dr. RT Patil.

### **Indian Society for Non Destructive Testing (ISNT)**

Under the auspices of the American Society for Non-destructive Testing, USA (ASNT), the National Certification Board-ISNT.NDT conducted ASNT NDT Level III Examination of 2014 in various methods during on January 27-29 at Pune. ISNT is the national sponsoring organization for this. After this examination certificates were issued to the successful participants by the ASNT, which will help NDT personnel and the organizations that employ them in promoting global acceptance of their products and services.

### **Indian Society for Technical Education (ISTE)**

Under the aegis of ISTE Sri Ramakrishna Institute of Technology, Coimbatore organized 4th National Conference on Communication, Computation, Control and Automation - CCCA-2014 during March 28-29, 2014 at Coimbatore. Prestige Institute of Engineering & Science organized 3rd National Conference on Recent Trends in Engineering & Science during March 7-8, 2014 at Indore. Department of Information Technology, SRM University organized International Conference on Recent Development in Computational and Information Technology -ICRDCIT'14 during March 7-8, 2014 at SRM Delhi NCR Campus. Some more conferences were also organized during March, 2014 at

different place. Research scholars and PG/PG students from various organizations/institutions participated in these conference.

### **The Indian Institute of Metals (IIM)**

The Pune Chapter of IIM organised Dr. Dara P. Antia memorial lecture on March 12, 2014 at College of Engineering, Pune. Dr. Baba Kalyani CMD Bharat Forge Ltd, Pune delivered the lecture on the theme: transformation of our manufacturing industry. The lecture was very well attended by the industry, academia and the students. The IIM- Delhi Chapter regularly organizes visits to industries in and around NCR for the benefit of its members. Members of the Delhi Chapter of IIM visited M/s Metso Corporations plant located at Alwar in Rajasthan on March 22, 2014. The plant manufactures inter alia mineral beneficiation equipment. The visit was well informative. IIM-DC members visited Yogiji - Digi, Faridabad on January 18, 2014. The members went around their modern facilities at Village Dudhola (Palwal), Head Quarters and Design Office at Sector 58 Faridabad, and had extensive deliberations with the promoters and other senior officials. Yogiji - Digi is a unique association between two Companies - Yogiji Technoequip (P) Ltd. & Digi Drives (P) Ltd. who are now providing highly efficient, technically superior & affordable turnkey solutions

to setup Cold Rolling Mills & allied equipment.

### **The Institution of Electronics and Telecommunication Engineers**

A two-day national level technical symposium was organized by the IETE Student's Forum, VIT University, Vellore in collaboration with the School of Electronics Engineering, VIT University during January 18-19, 2014. The symposium was very well attended.

### **Appointments**

**Shri D. K. Sarraf** has been appointed Chairman & Managing Director, Oil and Natural Gas Corporation Limited (ONGC),

**Ms. Nishi Vasudeva** has been appointed Chairman & Managing Director, Hindustan Petroleum Corporation Ltd. (HPCL).

**Shri K.S. Popli** has been appointed Chairman & Managing Director, Indian Renewable Energy Dev. Agency Ltd. (IREDA).

**Shri S. Varadarajan** has been appointed Chairman & Managing Director, Bharat Petroleum Corpn. Ltd. (BPCL).

*Our Congratulations*

### **News Kiosk**

#### **The CII-ITC Centre of Excellence**

There is an increasing need for assurance of non-financial and financial aspects of an organization's sustainable development performance. There remains a gap, however, in standards that govern the emerging profession of sustainability assurance practitioners. There is growing confusion as to what experience is relevant and how best to judge individual competence, often as part of assurance teams. As a result, the growth of sustainability assurance has been constrained with corresponding damage to quality and credibility. Recognizing this gap, **the CII-ITC Centre of Excellence** for Sustainable Development (CESD) conducts a

professional qualification training course in sustainability assurance in India. Being one of a kind, the Certified Sustainability Assurance Practitioner Training Course, accredited by Accountability, offers a series of Accountability certified modules that build expertise in key elements of corporate responsibility. The training is especially useful to companies, practitioners and assurance providers. The objective of the course is to help the participants in understanding the sustainability management & performance improvement in its business activities.

### **Series on Automation**

CII has been organizing various online session series in the past. CII Southern Region took the initiative and organized the online session series on automation this year on manufacturing intelligence: accelerating manufacturing productivity and performance, manufacturing intelligence: power of real time information for manufacturing on March 12, 2014. and enterprise manufacturing intelligence is used to bring a corporation's manufacturing-related data together from many sources for the purposes of reporting, analysis, and passing data between enterprise-level and plant-floor systems. As data is combined from multiple sources, it can be given a new structure or context that will help users find what they need regardless of where it came from. The primary goal is to turn large amounts of manufacturing data into real

knowledge and drive business results based on that knowledge. Plant floor generates valuable performance data virtually every second in a production cycle. Readily accessing and sharing this information produces tangible value for many companies who have leveraged the benefits of manufacturing intelligence. Seeing information from disparate data sources, in the context you need, gives you the power to make more informed decisions & optimized the plant. To educate customers on how to bring greater visibility to your company, driving better manufacturing decisions. Educate customers on how to leverage the power of manufacturing intelligence with a suite of reporting and analysis tools, interfaces and dashboards designed to deliver contextual, localized, role-based information for better decision making.

## Awards & Honours

**Shri Mahendra Raj**, Vice Chairman, ECI & CMD, Mahendra Raj Consultants Pvt Ltd received Award in "Hi Aim 2014" in recognition to the proven contribution to the Hospitality Industry at The GRAND, New Delhi on March 26, 2014.



Planning Commission, Government of India, at Delhi on 7th March 2014. It was conferred in a grand ceremony at Stein Auditorium, India Habitat Centre, New Delhi attended by high level officers of various departments of govt. of India and other dignitaries from construction industry.



**Ms. Sangeeta Wij**, Governing Council member of CEAI, received the Smt. Satya Goel Memorial Award instituted by the Indian Buildings Congress (IBC) in the memory of late Smt. Satya

Goel wife of Shri O P Goel, Founder President, IBC for her contribution to the building profession with a remarkable achievement.

**Shri Avinash Shirode** received National "Achievement Award" in "Innovator" category by Construction Industries Development Council (CIDC), established by



**ITM Universe Vadodara** received the "Best Institution for promoting Industry Academia Interface" Award in



ASSOCHAM National Education Excellence Awards 2014 from Dr. Karan Singh on 19th February 2014 at New Delhi.

**Our Congratulations**

## India is on a steady road to technological slavery - Shri Harshwardhan Gupta

I design machines! For the past 38 years, I have designed about 100 different kinds of machines; all of them from basic first principles without copying. In today's reality, India is on a steady road to technological slavery. In the words of Dr. Mashelkar, the 'I' in India stands for inhibition and imitation, not innovation. Before liberalisation, we copied things, but we were so obsessed with cost cutting that we never bothered to improve upon what we were copying. After liberalisation, we stopped even copying. So all the progress you see today is now utterly dependent on foreign technologies. In a global scene, our contribution is zero. This is not changing in spite of all the recent hype about innovations. Look at China; it is now a fully developed nation with largest manufacturing and machine building base, with large ownership of global mineral resources, mass manufacturer of communication hardware, and consumer goods. China now has many monopolies, and is systematically undermining world's critical tool- and die-making skills and all sorts of artisan skills too. China's quality and engineering sophistication are accelerating at a brisk pace. They are already dominating the world by slowly and systematically making other large nations like us utterly dependent on them for every conceivable thing that we need.



The causes of our stagnation in the field of technology development are many: inability to scale up any good development, 'jugaad' mentality, obsessive cost cutting: "cut

cost at any cost!", gross inefficiencies, indecisiveness, inhibited decision-making, perpetually fooling ourselves, rampant obstructionism, technological lethargy: "Why make if you can import?", wearing our poverty as a medal, gross obsession with entertainment and ornamentation, playing with words instead of real ideas, lazy naive faith: "Sab theek ho jaayega!", "India will soon become a super power", etc. We as a nation are now habitually offering instant excuses as a necessary and sufficient response for our shortcomings. And we have become intolerant even to the smallest of valid criticism, etc. What should we do to reverse this? We are actually capable of reversing this by moving out of foreign dependence on all kinds of technologies, developing mechanised systems and sensible attitudes for food-processing, garbage disposal, cleanliness, waste management, traffic management etc., to minimise our massive losses of resources and work-hours. We should scale up good change quickly, and do things better and faster, rather than cheaper and more mediocre. We should get good practising engineers (not managers) in direct contact with young students to inspire them, and acquire skills to use, design and build advanced machines of all sorts. We should get out of the 'jugaad' mentality completely. We should cure our addiction to entertainment. We should stop playing with words, and get media to focus on technology, skills, training, cleanliness, civic sense. We should stop arguing; being habitually optimistic; and continuously offering excuses and platitudes.



## Shri D K Sarraf has taken over as the Chairman & Managing Director of Oil and Natural Gas Corporation Ltd (ONGC)

India's most valuable Maharatna public sector enterprise and one of the most premier E&P companies in the world, ONGC is the highest Profit making and one of the most valuable company of India as well as one of the Fortune's Most Admired Companies in the world. Shri Sarraf has taken over reins of this prestigious company in the Oil and Gas sector. He is also the



Chairman of ONGC Videsh Limited (OVL) which is operating across 16 countries. Besides, he the Chairman of Mangalore Refinery & Petrochemicals Ltd (MRPL) and four other ONGC Group companies (OPaL-ONGC Petro-additions Ltd, OMPL – ONGC Mangalore Petrochemicals Ltd, MSEZ- Mangalore SEZ Ltd and OTPC- ONGC Tripura Power Company Ltd). He brings with him to his new assignment a very rich experience of over three decades in the oil & gas industry. Shri Sarraf graduated in commerce from the prestigious Shri Ram College of Commerce, Delhi University and holds a post graduate degree in Commerce

from the same University. He is an associate member of the Institute of Cost and Works Accountants of India and the Institute of Company Secretaries of India. He started his oil and gas career in India's second largest upstream oil company – Oil India Limited and worked there till 1991 where he inculcated the experience in various facets of E&P at oil field level. He joined ONGC in 1991 and handled various key assignments at corporate offices. He was elevated to the post of Director (Finance) in OVL in February 2005 where he served till December 2007. During this period, OVL made significant acquisitions in Syria, Brazil, Colombia, Venezuela, Cuba, Egypt and Myanmar. In December 2007, he joined back ONGC as Director (Finance). In September 2011 once again Mr. Sarraf went back to OVL assuming the charge of its Managing Director. As MD, he transformed OVL into an aggressive growth engine for ONGC Group by clinching four high value deals of worth more than \$11 billion within one year. In March, 2014, he joins back ONGC once again and takes over as its Chairman & Managing Director. In recognition of his excellence in financial management and contributions, he has been conferred with several accolades including the Best CFO Award in Oil & Gas sector in India by CNBC in 2009 and 2011.

### Letters to the Editor

Dear Shri Shali

Thanks a lot for the December 2013 issue of the Indian Engineer. The Issue was indeed very informative about various engineering association, as also about corporate world and about Indian personalities which have contributed to our advancement I will also be happy if I continue to get this issues in future too.

With kind regards

Sincerely yours  
**G. R. Sethi**  
Chartered Engineer

Dear Shri Shali,

Thank your sending me this very informative publication, which I thoroughly enjoyed reading.

With best wishes for a very successful New Year,

**Anand Kumar**

Dear Shri Shali,

Many thanks for considering me in your list for sharing this excellent informative newsletter which I heartily appreciate.

Wishing you and all your team members a great 2014.

Warm Regds

**Uttam**



### Obituary

**Dr. S K Tandon**, Chief Adviser, Farm Mechanization, EM3 Agri Services Pvt. Ltd., Delhi and former ADG (Engineering), ICAR and very active member of ISAE passed away in the morning of 15 January, 2014. He would be remembered as a devoted professional with keen interest in bringing industry and academia closer. ISAE and ECI family extends heartfelt condolence and deepest sympathy to his family and pray God for eternal peace to the departed soul.

### ENGINEERING COUNCIL OF INDIA

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Published by Shri P.N. Shali, Director, Engineering Council of India for restricted circulation from Jawahar Dhatu Bhawan, New Delhi-110062  
Printed by : Maansee Printers, E-mail : [maanseeprinters@yahoo.co.in](mailto:maanseeprinters@yahoo.co.in)