



# The Indian Engineer

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## From the Chairman's Desk



6th National Conference : **Re-engineering Engineers** The Engineering Council of India organized the 6th National Conference on the theme Re-engineering Engineers on November 28, 2008 at New Delhi with the support of its Member Associations. It was well-received by both the industry and the academia. The Chief Guest, Dr. Bhalchandra Mungekar, Member, Planning Commission, who inaugurated the Conference made some very useful suggestions. He stated that the message that has emerged from the Conference needs to be spread widely and it could better be done by organizing more such conferences, workshops, etc. on the subject at important national engineering institutions including IITs, NITs, etc. We are approaching him to seek the support of the Planning Commission for organizing some of these conferences and workshops. Dr. Ashok K Chauhan, Founder President, Ritnand Balved Education Foundation (RBEF), the Foundation of Amity Institutions and Chairman, AKC Group of Companies, who was the Guest of Honour, suggested working with the ECI for bringing up desired reforms in the engineering education in the country. Shri K. K. Kapila, President, CEAI and Managing Director ICT (P) Ltd. delivered the theme address and made very valuable suggestions. Chairs, Co-chairs, Keynote speakers and Panelists included eminent persons such as Mahendra Raj, Ajay Poddar, Senior Member of PHD Chamber Managing Committee and Managing Director, JCL International Ltd, Dr. Lalitha K Prasad from the Tata Consultancy Services, Dr. Ing. N Rajagopalan, Chief Technical Advisor-Bridges, L&T-Ramboll Consulting Engineers Limited, G. Sharan, Chairman, Indian National Group of IABSE & DG (RD), Ministry of Shipping, Road Transport & Highways, Prof. B. B. Dhar, Senior Vice President, Ritnand Balved Education Foundation, Lt. Gen A. K. Puri, PVSM, AVSM (Retd.), Chairman, IIBE, DSC, Dr. P. K. Sarkar, Hony. Secy., IUT, L. Pugazhenty, President, Indian Institute of Metals, Prof. Ambuj Sagar, IIT, Delhi, S. S. Chakraborty, Managing Director, Consulting Engineering Services (India) Private Ltd., P.R.Swarup, Dr K. G. Bhatia, CEO, Delhi CAD Technology, Vijay.K. Saluja, Senior Fellow, Urban Studies Institute of Social Sciences, New Delhi, S. Ghosh, Vice-President of Indian Association of Structural Engineers & Managing Director, Consulting Engineering Services P Ltd, Prof. Priyavrat Thareja, Punjab Engineering college, Chandigarh (Deemed University), Prof. Javed Husain, Department of Applied Physics, Zhakir Husain College of Engineering & Technology, Shri Alok K. Ghosal, Projects (VE), Engineering & Projects Division Tata Steel. Concluding remarks were presented by Shri P.R.Swarup, DG, CIDC, S. Ratnavel, CEO, Scebca Consultancy Services, Madurai and Member, Board of Governors, Engineering Council of India presented the vote of thanks. All of them made very valuable suggestions. While the the proceedings of the Conference may take some time, the conclusions and recommendations are being prepared and will be circulated shortly.

Immediately after the successful 6th National Conference, the Board of Governors of ECI, in its 22nd meeting, identified the following activities for ECI in the coming months : Convention on Seamless Engineering-Continuation of earlier efforts, State Level Workshops- for orientation of state government engineers, Interactive Workshops-with Engineering Faculty, Students and Industry, Joint Programmes- jointly with the Member Associations on a modular basis, Registration of Potential Engineers- for Diploma Engineers, going for graduate degree, to get recognition and having database for Member Associations for increasing their membership, University Degree for Associateship Examinations of Member Associations, Joint Accreditation of CPD Programmes- for Member Associations under the Systems and Procedures developed by ECI which are equivalent to that of the EMF, Multi-Skills Training Programmes: which do not conflict with the specific engineering specialization-based programmes of the Member Associations, Resource Centre-information relating to engineering profession and Other activities as a follow up of the suggestions at 6th National Conference. The success of these activities depends largely on the active involvement and support by the Member Associations. I look forward to their suggestions and positive response.

  
(Uddesh Kohli)

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## 6<sup>th</sup> National Conference : Re-engineering Engineers

**The Indigenous Engineering Education System should be Consistent with the Requirements of the Developing and Growing Economy - Dr. Bhalthandra Mungekar, Member, Planning Commission**

While appreciating the efforts being made by the Engineering Council of India in making India a leader of knowledge economy through enhancing the standard of engineers and the engineering education in the country, he stated that the indigenous engineering education system should be consistent with the requirements of the developing and growing economy and the emerging democratic polity. He felt quite elated over the achievements made in the field of engineering education after getting independence in spite of various constraints but at the same time felt that much is still to be done on this front. Rate of return on the invested capital is the most important single consideration for the industries and this depends upon several initiatives including the expenditure on research and development. He added that we have to re-structure, re-model and re-innovate our engineering education system. He felt that we are trying to cover the spectrum of one specialized branch of engineering and, while doing this, the aspect of imparting multi-skilled knowledge to the students is getting ignored, which is leading to the reduced employability of Indian engineers. The theme of the 6<sup>th</sup> conference implies re-engineering of engineers which is required for improving their quality for meeting the emerging challenges. He stated that the Industry-Academia partnership means active involvement of the stake holders at all levels of the engineering educational process. The style of functioning of the higher level educational professionals requires immediate change from its bureaucratic pattern. The culture of accountability, leading to the culture of sincerity in the profession, must be infused in the institutions. The national educational bodies, like the All India Council for Technical Education (AICTE), must be re-structured to inculcate inter-disciplinary approach on the academic front and the concepts of developmental commitments, accountability and work ethics should be infused. Due to the financial constraints, it has become very difficult for the central as well as the state governments to undertake the responsibility of providing higher technical education. We have, therefore, to

*Contd. on page 3...*



## *From Editor's Desk*

### 'Can Our Engineering Education meet the Challenges of 21<sup>st</sup> Century?'

The integration of the Indian economy with the world economy is deepening. With this, as against opportunities which are generating, many issues have raised their heads like the climate change, process issues, changes concerning the legal framework, the technological level differences from country to country, etc. We have to deal with these issues as well as seize the opportunities arising due to the globalisation. The major challenge in the 21<sup>st</sup> century will be very fierce competition within the country and between the countries. The present engineering education cannot meet the challenges of the 21<sup>st</sup> century. A different calibre of engineers, than what we are currently producing will be needed to meet the challenges of the 21<sup>st</sup> century. Engineers of the 21<sup>st</sup> century will have to be more versatile than their predecessors. They will have to design, install, support, and maintain national infrastructure of international standards. They will have to handle mega-projects of a complex mix of technologies. They will have to play a different role than that of today. According to Dr. A. K. Singh, Director, Electrical Research and Development Association, Baroda, the desirable characteristics of the 21<sup>st</sup> century engineer from the industry perspective are: fundamental technical domain knowledge complemented by knowledge from neighbouring technical disciplines, solid methodical knowledge, system-building and problem-solving skills, understanding of the entire value-chain, management know-how and business process skills, project management and decision-making skills, marketing and financial know-how, foreign language proficiency, knowledge about the social and ecological implications of technology, interpersonal and communication skills, leadership techniques, inter-cultural understanding and cultural empathy and capacity and willingness to engage in life-long learning supported by cosmopolitan attitude and global mindset and skills to deal with various regulations and statutory bodies.

The primary crisis being faced by the engineering education in India today is its decreasing relevance, poor quality, prevailing academic practices in the system and regulation. It does not prepare engineers to take on the role of project engineers and managers. Lower number of entrants to engineering is a marked trend. Lack of charismatic teachers - generally attributed to poor pay scales and lack of incentives-and lack of glamour in the engineering profession are some other major degrading factors of the engineering profession in India. Practising engineers are not involved in the education process. They can only complement faculty teaching, not substitute it. All engineering activities have economic implications. Without knowledge of economics, therefore, engineers are unable to accomplish the economic part of engineering applications in an effective way. There is no working mechanism for enabling continuous interaction of the academic institutions with the industry at the domestic as well as international levels which will make it possible to get the right kind of quality technical education in India for making her a global leader in the field of technology and engineering workforce. The engineering profession is not proactive in reforming its own curriculum so as to fend off any unwelcome imposition by the external forces. The administrative set-up for the higher technical education in the country is the relic of the closed economy and, therefore, not relevant today. The training and preparation, therefore, of the 21<sup>st</sup> century engineers should be of paramount importance to government, industry, and academia. Engineering Council of India has initiated an in depth discussion on this subject in the country.

(P. N. Shali)



think in terms of the foreign direct investment in this field. The benefits of technical knowledge must be arranged to be taken to the rural village sector. The Government of India have, for the first time since 1951, earmarked about 20% of the total 11<sup>th</sup> Five Year Plan budgetary resources for education. Formation of the National Skill Development Corporation and the National Skill Development Board are some other important steps taken by the government of India in the skills development sphere. Involvement of the industry in formulating the syllabi of the engineering courses, taking into consideration the practical conditions which the students will be working in after passing out, will certainly go a long way in delivering proper output. Before getting the engineering degree, all students must have worked in the industry for at least six months. It needs to be made a necessary condition in the engineering education process for realizing the objective of making the engineering education in the country industry-specific and engineers employable.

### **Engineering Curricula Needs Re-engineering for Better Employability of Engineers - Dr. Ashok K. Chauhan**

While delivering his address as the guest of honour at the 6<sup>th</sup> Conference, Dr Chauhan appreciated objectives, tasks and mission undertaken by the Engineering Council of India (ECI). While supporting fully the views expressed by Dr. Mungekar, Member Planning Commission and K.K.Kapila, Managing Director, ICT Ltd., he stated that the present syllabus being followed in the Indian engineering colleges needed to be re-engineered for making it suitable to the needs of industry and, therefore, for better employability of engineers. He felt that it needs immediate attention of the concerned agencies including statutory bodies and bureaucrats involved in the engineering education in the country. He felt that bringing on the statute Engineers Act was another important matter which needs to be addressed urgently. Engineers have the right, as is the case with the other professions such as, lawyers, medical Doctors, etc, to be recognized as professionals apart from meeting the requirements of trade in engineering services opening up of which is round the corner, for accountability of engineers, ethics, etc. He appreciated the efforts made by Sh. Mahendra Raj, Vice Chairman,

Engineering Council of India and President, Indian Association of Structural Engineers and others in this regard. Dr. Chauhan recommended that the degrees, diplomas, certificates awarded by the various member associations of the Engineering Council of India should be arranged to be recognized by some university. He was also in favour of the dual degree in engineering and management. He added that disaster management was not taught in India and strongly recommended that it needed to be covered in the regular engineering curricula or taught as a separate full time course. He emphasized the importance of consultancy and felt the necessity of a change in the Indian mindset in this direction.

### **6<sup>th</sup> National Conference: Re-engineering Engineers: An Opinion**

I had attended the conference on being nominated by the Ministry of Railways. I think that the conference had not addressed the topic in the correct perspective. Re-engineering engineers actually should refer to mid-course training of engineers to update them with the changes in technology. However, most of the speakers were speaking about the induction programs to be given to graduating engineers and this was being projected as the role of the educational institutions. This is grossly wrong. The induction should at best be done by the professional bodies or by the organizations themselves. To expect the educational institutions to take in this responsibility is nothing but too much ambition on the part of the entrepreneurs and companies to get well trained manpower in specific domains which is not feasible. The companies desiring to get trained manpower from educational institutions should select candidates in advance, pay stipend, offer training during vacations, set clear goals to be achieved before completing the degree. I am sure by this approach the industry will get employable engineers coming out from educational institutions. The educational institutions on their part have the responsibility to design proper syllabi in tune with the technological developments and to make learning an enjoyable but dedicated experience through proper teaching methods and extra-curricular activities. I request that this suggestion be propagated widely among the industry and also be brought to the notice of Prof. Mungekar.

**V. Balaram, Director/IRISET**

## **Flash**

### **New Life Member of ECI**

The Institution of Mechanical Engineers (India) was incorporated as the 26th Member of the Engineering Council of India at the 22nd meeting of the Board of Governors held on November 28, 2008 at New Delhi.

Platform for an interface between industry and academia launched by the Delhi University The Central Placement Cell (CPC) of Delhi University launched in September, 2008 the much-needed platform for the students for an interface between the industry and the university. The vice-chancellor, Deepak Pental, announced the launch of the cell in the presence of representatives of Assocham, CII, FICCI, dignitaries from industries like CEOs, presidents, MD's, chairmen of various companies. The Central Placement Cell aims at creating an interface between industry and academia and helps provide a unique platform to students. The industry will get a wider choice to select students from different disciplines with varied backgrounds and competencies.

Seminar on the IChemE International Forms of Contract for Process Plant Projects Indian Chemical Council along with the Institution of Chemical Engineers (IChemE), UK organised two -day seminar on "The IChemE International Forms of Contract for Process Plant Projects" during September 29 - 30, 2008 at Indian Institute of

Chemical Engineers (IChE) NRC Auditorium, C-27 Qutab Institutional Area, New Delhi. The seminar explored the particular nature of process plant contracts and how they differed from other forms of construction contracts; it took a closer look at many of the provisions of the general conditions, explained how an International IChemE contract is structured; considered the different payment mechanisms and the ability of the contractor to carry risk under each of them, considered the risk allocations, indemnities and insurance provisions, examined the dispute resolution procedures and considered when it is appropriate to use each of the various versions of the form of contract.

### **The Institution of Engineers (India) gets its new President**

Rear Admiral Kishor O Thakare has been elected as the President of The Institution of Engineers (India). He assumed this prestigious office at Engineering Congress which was held at Kolkata on 11th December 2008. Maharashtra State Centre of The Institution of Engineers (India) has received this honour after a gap of almost 10 years and first time in the history of Pune Local Centre, its member is elected on such a coveted position at the National Level. Admiral Thakare, alumni of NDA, is probably the youngest President elected so far.

**Our Congratulations**

## Eminent Indian Engineer: Ratan Tata

Ratan Naval Tata is the present Chairman of the Tata Group, India's largest conglomerate established by earlier generations of his family. He was born to Soonoo and Naval Hormusji Tata, a Gujarati-speaking Parsi of the wealthy and famous Tata family of Mumbai on December 28, 1937. Ratan is the great grandson of Tata Group founder Jamsedji Tata. Ratan's childhood was troubled, his parents separated in the mid-1940s, when he was about seven and his younger brother Jimmy was five. His mother moved out and both Ratan and his brother were raised by their grandmother, Lady Navajbai. He was schooled at the Campion School, Mumbai and graduated from Cornell University in 1962 with a degree in Architecture and Structural Engineering.



Ratan joined the Tata Group in December 1962, when he was sent to Jamshedpur to work at Tata Steel. He worked on the floor along with other blue-collar employees, shovelling limestone and handling the blast furnaces. In 1971, Ratan was appointed the Director-in-Charge of The National Radio & Electronics Company Limited (Nelco), a company that was in dire financial difficulty. Ratan suggested that the company invest in developing high-technology products, rather than in consumer electronics. J.R.D. Tata was reluctant due to the historical financial performance of Nelco which had never even paid regular dividends. Further, Nelco had 2% market share in the consumer electronics market and a loss margin of 40% of sales when Ratan took over. Nonetheless, J. R. D Tata followed Ratan's suggestions. From 1972 to 1975, Nelco eventually grew to have a market share of 20%, and recovered its losses. In 1975, however, India's Prime Minister, Indira Gandhi declared a state of emergency, which led to an economic recession. This was followed by union problems in 1977, so even after demand improved, production did not keep up. Finally, the Tatas confronted the unions and, following a strike, a lockout was imposed for seven months. Ratan continued to believe in the fundamental soundness of Nelco, but the venture did not survive. In 1977, Ratan was entrusted with Empress Mills, a textile mill controlled by the Tatas. When he took charge of the company, it was one of the few sick units in the Tata group. Ratan managed to turn it around and even declared a dividend. However, competition from less labour-intensive enterprises had made a number of companies unviable, including those like the Empress Mills which had large labour contingents and had spent too little on modernisation. On Ratan's insistence, some investment was made, but it did not suffice. As the market for coarse and medium cotton cloth (which was all that the Empress produced) turned adverse, the Empress began to accumulate heavier losses. Bombay House, the Tata headquarters, was unwilling to divert funds from other group companies into an undertaking which would need to be nursed for a long time. So, some Tata directors, chiefly Nani Palkhivala, took the line that the Tatas should liquidate the mill, which was finally closed down in 1986. Ratan was severely disappointed with the decision, and in a later interview with the Hindustan Times would claim that the Empress had needed just Rs 50 lakhs to turn it around.

In 1981, Ratan was named Chairman of Tata Industries; the Group's other holding company, where he became responsible for transforming it into the Group's strategy think-tank and a promoter of new ventures in high-technology businesses. In 1991, he took over as group chairman from J.R.D. Tata, pushing out the old guard and ushering in younger managers. Since then, he has been instrumental in reshaping the fortunes of the Tata

Group, which today has the largest market capitalization of any business house on the Indian Stock Market. Under Ratan's guidance, Tata Consultancy Services went public and Tata Motors was listed on the New York Stock Exchange. In 1998, Tata Motors introduced his brainchild, the Tata Indica. On January 31st, 2007, under the chairmanship of Ratan Tata, Tata Sons successfully acquired Corus Group, an Anglo-Dutch steel and aluminium producer. With the acquisition, Ratan Tata became a celebrated personality in Indian corporate business culture. The merger created the fifth largest steel producing entity in the world.

Ratan Tata's dream was to manufacture a car costing Rs 100,000 (1998: approx. US\$2,200; today US\$2,528). He realized his dream by launching the car in New Delhi Auto Expo on January 10, 2008. Three models of the Nano were announced, and Ratan Tata delivered on his commitment to developing a car costing only 1 lakh rupees, adding that "a promise is a promise," referring to his earlier promise to deliver this car at the said cost. On March 26, 2008, Tata Motors under Ratan Tata bought over Jaguar & Land Rover from Ford Motor Company. The icons of British Luxury, Jaguar and Land Rover were acquired for £1.15 billion (\$2.3 billion). Ratan Tata, a shy man, he rarely features in the society glossies, drives himself to work in a Tata car and has lived for years in a book-crammed, dog-filled bachelor flat in Mumbai's Colaba district.

### Awards and Recognition

On the occasion of India's 50th Republic Day on 26 January 2000, Ratan Tata was honoured with the Padma Bhushan, the third highest decoration that may be awarded to a civilian. The title of honorary economic advisor to Hangzhou city was conferred on him in February 2004 in the Zhejiang province of China. In March 2006, he was honoured by the Cornell University as the 26th Robert S. Hatfield Fellow in Economic Education, considered the highest honour the university awards to distinguished individuals from the corporate sector. He was listed among the 25 most powerful people in business named by Fortune magazine in November 2007. On 26 January 2008, he was awarded the Padma Vibhushan, the second highest civilian decoration. He became among one of the recipients of the NASSCOM Global Leadership Awards-2008 after he was given the award on February 14, 2008 at a ceremony in Mumbai. The 1<sup>st</sup> IIM-JRD Tata Award For Excellence in Corporate Leadership in Metallurgical Industry was conferred on Ratan Tata on November 13, 2008. He recently received an honorary doctorate from the London School of Economics.

### Positions Held

Ratan Tata serves in senior capacities in various organisations in India and he is a member of the Prime Minister's Council on Trade and Industry.

Ratan Tata's foreign affiliations include membership of the international advisory boards of the Mitsubishi Corporation, the American International Group, JP Morgan Chase and Booz Allen Hamilton. He is also a member of the board of trustees of the RAND Corporation, and of his alma maters: Cornell University and the University of Southern California. He also serves as a board member on the Republic of South Africa's International Investment Council and is an Asia-Pacific advisory committee member for the New York Stock Exchange. He is on the board of governors of the East-West Center, the advisory board of RAND's Center for Asia Pacific Policy and serves on the programme board of the Bill & Melinda Gates Foundation's India AIDS initiative.

## Awards

### The 1st IIM-JRD Tata Award for Excellence in Corporate Leadership conferred on Ratan Tata

In order to perpetuate the memory of a legend and a visionary, late JRD Tata, the Indian Institute of Metals (IIM) and the House of Tata's have jointly instituted the IIM-JRD Tata Award for Excellence in Corporate Leadership in Metallurgical Industry from this year onwards. An eminent jury of metallurgists unanimously selected Mr Ratan Tata, Chairman TATA Sons Ltd for this award. At a glittering function at Greater Noida recently, this award was presented to Mr Ratan Tata at a special function by Mr Santosh Bagrodia Honorable Union Minister of State for Coal in the presence of the President of Indian Institute of Metals, Mr L Pugazhenthay and a galaxy of metallurgists and invitees. In his response, Mr Ratan Tata thanked the IIM for this award and complimented the IIM for its proactive role among the industry, research and teaching in India.

Dr. Srikumar Banerjee, Past President, the Indian Institute of Metals (IIM) & Director, BARC, Shri B. D. Jethra, former Adviser

(Industry and Minerals), Planning Commission, Government of India, Prof. Brajendra Mishra, Deptt of Metals & Material Engineering, Univ. of Cambridge, UK have been awarded Honorary Membership of the Indian Institute of Metals (IIM) for distinguished services to the metallurgical profession & to the IIM.

Dr. J. J. Irani, Director, Tata Sons Ltd has been given Lifetime Achievement award by the IIM at the NMD, ATM function held on November 14, 2008 at the Greater Noida Expo Centre.

The National Metallurgist (Industry) award was conferred on Dr. L. K. Singhal, Director, Jindal Stainless Ltd. at the NMD, ATM function held on November 14, 2008 at the Greater Noida Expo Centre.

The National Metallurgist (Research & Academia) awards of the IIM was conferred on Dr. C. K. Gupta, former Director, Materials Group, BARC, Mumbai at the NMD, ATM function held on November 14, 2008 at the Greater Noida Expo Centre.

*Our Congratulations*

## ACCE Awards 2009 - Call for Nominations

- ACCE-BHAGWATI AWARD for Outstanding Design for Industrial Plant/Structures. **Instituted by :** Bhagawathi Associates Pvt. Ltd., Mumbai.
- ACCE-SIMPLEX AWARD for Innovative Design of Structures other than Industrial. **Instituted by :** Simplex Concrete Piles (India) Pvt. Ltd., Calcutta.
- ACCE L & T ENDOWMENT AWARD for Excellence in Construction of Industrial Structure. **Instituted by :** L & T, ECC Construction Group, Chennai.
- ACCE BILLIMORIA AWARD for Excellence in Construction of High Rise Building. **Instituted by :** B E Billimoria & Co. Pvt. Ltd., Mumbai.
- ACCE SOM DATT AWARD for Excellence in Construction of Transportation Projects. **Instituted by :** SOM DOTT Builders, Delhi.
- ACCE SARVAMANGALA AWARD for Excellence in Construction of Civil Engineering projects other than industrial plant & transportation projects. **Instituted by :** Sarvamangala Constructions, Chennai.
- ACCE GOURAV AWARD for Significant Contribution to Civil Engineering Consultancy. **Instituted by :** Gourav Engineers, Bangalore
- ACCE CDC AWARD for Best Software Package in Civil Engineering. **Instituted by :** Computer Designs Consultants, Chennai.
- ACCE NAGADI AWARD for Best Publication (Book) in Civil Engineering. **Instituted by :** Nagadi Consultants Pvt. Ltd., Delhi.
- ACCE AWARD : For Creative Applications of Building Materials for Durability. **Instituted by :** Association of Consulting Civil Engineers (India).
- ACCE INSWAREB AWARD for Effective Use of Blended Cement in Design and Construction of Civil Engineering Projects. **Instituted by :** INSWAREB of Vishakapatnam.
- ACCE FOSROC AWARD for Effective Use of Construction Chemicals in Civil Engineering Projects. **Instituted by :** Fosroc Chemicals (India) Ltd., Bangalore.
- ACCE-JMC AWARD for Best Construction by Budding Company of India. **Instituted by :** JMC Projects (India) Limited, Chennai.
- ACCE-GAMMON AWARD for Effective Use of Construction Materials/Systems In Construction Resulting In National Savings. **Instituted by :** Gammon India Limited, Mumbai.
- ACCE- L&T FORMWORK AWARD for Best Use of Formwork In Civil Engineering. **Instituted by :** Larsen & Toubro Limited, ECC Division) Chennai.
- ACCE ESSEN AWARD for Appropriate Use of Construction Chemicals & Epoxy For Rehabilitation /Retrofitting of Civil Engineering Structure by Consultants. **Instituted by :** Essen Supplements India Ltd., Secunderabad.

*Nominations are invited from Consulting Engineers, Designers, Planners, Construction Agencies, Computer Software Developers and Authors. The works completed in the above areas during the last 3 years are to be submitted on or before 31<sup>st</sup> March 2009 in a prescribed Proforma. Proforma can be down loaded from the website: [www.accehq.net](http://www.accehq.net) These awards will be presented during the ACCE ANNUAL CONVENTION to be held on third week of August 2009 at Davangere. For more details please contact : Chairman, Awards Committee, Association of Consulting Civil Engineers (India), No. 2, UVCE Alumni Association Building, K. R. Circle, Bangalore - 560 001, Tel : 91-080-2247466, Tel/Fax : 080-2219012, E-mail: [admin@accehq.net](mailto:admin@accehq.net), Website: [www.accehq.net](http://www.accehq.net)*

## News Corner

**The 2nd Innovative Technologies for Manufacturing Expo (ITM Expo), 2009 is being organized on March 5th-7th, 2009 by the All India Association of Industries (AIAI) and the World Trade Centre, Mumbai, Centre 1 Building, 31st Floor, WTC Complex, Cuffe Parade, Mumbai.** The Expo is supported by the Department of Industrial Policy and Promotion – Ministry of Commerce & Industry, Govt. of India and Govt. of Maharashtra. Needless to say, in order to give fillip to the manufacturing sector amidst increasing competition, fostering the applications of innovative technologies for advanced manufacturing would result

in increased productivity, improved product quality, greater operational flexibility, yielding competitive advantages and better performance in the world market. The ITM Expo'09 seeks to showcase to the manufacturing sector, the latest innovations and technologies developed across the globe for forming joint ventures, technology transfers, research and development alliances, licensing deals and other outsourcing arrangements.

Consulting Engineers Association of India (CEAI) secretariat has been temporarily shifted from Core 4-B, 2nd Floor, India Habitat Centre, Lodhi Road, New Delhi to its new address : Consulting Engineers Association of India, A-9, Green park, New Delhi - 110016. Ph : 26524644, Fax : 26524659, Email: [ceai.ceai@gmail.com](mailto:ceai.ceai@gmail.com)



## News from the Member Associations

### Association of Consulting Civil Engineers (India) {ACCE (I)}

The recipients for the various ACCE awards 2008 are ACCE SIMPLEX AWARD for Innovative Design of Structures other than industrial structure to Tandon Consultants Pvt. Ltd., New Delhi, ACCE SOM DATT AWARD for Excellence in Construction of Transportation Project to Gammon India Ltd., Mumbai, ACCE SARVAMANGALA AWARD for excellence in construction of Civil Engineering projects other than Industrial Plant and Transportation Projects to L & T, ECC Construction Group, Chennai, ACCE NAGADIAWARD for Best Publication (Book) in Civil Engineering to K. S. Jagadish, B. V. Venkatarama Reddy and K. S. Nanjunda Rao, ACCE-GAMMON AWARD Effective Use of Construction Materials/ Systems in Construction Resulting In National Savings to Adlakha Associates Pvt. Ltd., Delhi and ACCE GOURAV AWARD for Significant Contributions to Civil Engineering Consultancy to Shri. Vishnu D. Joshi, Pune.

### Construction Industry Development Council (CIDC)

Construction is the second-largest economic activity after agriculture in our country. CIDC and the Government of Madhya Pradesh have jointly launched a rehabilitation and skill empowerment programme for jail inmates in the State. The aim of CIDC is to empower the weaker and underprivileged sections of the society by offering a plethora of options within the construction sector.

### Consulting Engineers Association of India (CEAI)

FIDIC (International Federation of Consulting Engineers) Annual Conference 2008, a very important annual event for the consulting engineers worldwide and recognized as the world's consulting engineering industry's premier networking event, was held at Quebec City, Canada from September 7-10, 2008 with the theme "A Strong Industry – Serving Society". The FIDIC Annual Conference 2009 will be held from 13th to 16th September, 2009 at London. CEAI are going to host the FIDIC Annual Conference 2010 in September, 2010 at New Delhi. All India Conference along with Constru India was held during October 16-18, 2008 at Mumbai. A day's seminar was held with the theme 'Environment Protection in Building Industry' in November, 2008. An international conference will be held on "Renewable Energy Asia 2008" at New Delhi on 11-13 December, 2008. Indian Engineering Congress will be held on "Environment and Ecological Challenges : Role of Engineers" at Warangal (Andhra Pradesh) on 11-14 December, 2008.

CEAI is organizing a National Seminar on "Energy for Sustainable Infrastructure Development and Lifestyle" during February, 23-24, 2009 at The Stein Auditorium, India Habitat Centre, Lodhi Road, New Delhi with the support of The Institution of Engineers (India) and The Indian Member Association of International Federation of Consulting Engineers. The seminar will be of interest to Developers/Builders/Architects, Civil Engineers, Consultants, Public Sector Undertakings/Private Sector Companies handling Infrastructure projects, especially Electricity Generation, Transmission and Distribution, Independent Power Producers, Construction Machinery Manufacturers, Energy Service Companies, etc.

CEAI invites nominations for the following CEAI National Awards for the year 2008: a) National Awards for Excellence in Engineering Consultancy Services. b) Achievement Awards for individuals: (i) Excellence in Consultancy, (ii) Young Consultant Award (upto the age of 35 years), (iii) and Woman Consultant Award of the year.

### Indian Association of Structural Engineers (IAStructE)

IAStructE organized a presentation on EDIFICE '08 – Software-based methods & technologies by the Cranes Software International Ltd. (CSIL) on September 26, 2008 at India International Centre, New Delhi. It was a joint effort made by the IAStructE and CSIL to bring together the structural engineering fraternity of Delhi & NCR on a common platform. A workshop on

Steel Structures in Buildings is being organized by the Association jointly with the Institute for Steel Development & Growth during February 06-07, 2009 at Casuarina Hall, India Habitat Centre, Lodhi Road, New Delhi.

### Indian Institute of Chemical Engineers (IIChE)

SCHEMCON: The 4<sup>th</sup> Annual Students' CHEMCON (SCHEMCON) was held on September 26 and 27, 2008 at the Department of Chemical Engineering, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar under the aegis of the Doaba Regional Centre of IIChE. The central theme of this year's SCHEMCON was 'Present and Future Trends in Process Industry'. SCHEMCON this year was also host to five foreign delegates (three students and two young professionals) as part of the IIChE-IChemE collaboration. ChemEng 08, UK: In continuation of the IIChE-IChemE collaboration, three delegates from India (two young professionals and one student of Chemical Engineering) visited Birmingham during 26 – 31 October 2008 to participate in ChemEng 08 and associated programmes.

### Indian Institution of Bridge Engineers (IIBE)



*Shri M. Hamid Ansari, Vice President of India inaugurating the International Seminar.*

IIBE, Delhi State Centre (DSC) organized an international seminar on Latest Trends in Construction of Bridges on October 16, 2008 at Vigyan Bhawan, New Delhi. The seminar was inaugurated by the Vice President of India, Shri M. Hamid Ansari.

### Indian Buildings Congress (IBC)

As a result of hazardous working conditions at construction sites, project performance in terms of time, cost and quality, adversely affects the project viability. It is with this view that IBC organized a Training Programme on "Safety in Construction" for senior level DDA engineers on 12th December, 2008. The faculty of the Training Course consisted of experienced engineers from M.E.S., Larson & Toubro, Delhi Metro, ICT Pvt. Ltd. and School of Planning & Architecture. IBC is holding its Mid Term Session and Seminar on "Environment Protection in Building Industry" on January 9-10, 2009 at Nagpur and about 400 delegates from all over India are likely to attend the Seminar. The 15th Annual Convention of IBC will be held in May, 2009. For enhancing knowledge of the technicians and workmen engaged in construction, IBC is keen to set up 'Workmen Training Institutes', in UP, Rajasthan and Mharashtra and efforts are on to achieve this objective.

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

The IIIE, Mumbai, organized the 50th National Convention of Industrial Engineers & International Seminar on Global Energy Challenges : Strategies for Sustainable Development at 'THE PARK', Navi Mumbai on December 19-21, 2008. The Convention was organized with an intention of familiarizing the delegates with the present trends, the contemporary technologies and future goals of India in strengthening the Energy Security.

## Indian Institution of Plant Engineers (IPE)

IPE organized a seminar on Climate Change & Industry Perspective on November 4, 2008 at Seminar Hall, School of Environmental Sciences, Jawahar Lal Nehru University, New Delhi. A joint seminar was organized by the IPE, Indian Institute of Chemical Engineers (IChE), Air & Waste Management Association, USA & Indian Association for Air pollution Control and sponsored by Uttar Pradesh Industrial Development Corporation Limited, Government of Uttar Pradesh. Desein Indure Group of Companies, IPE and IChE. IPE and HQ Technical Group EME, Delhi Cantt. are jointly organizing a National Seminar on Design for Maintainability at HQ Technical Group EME, Delhi Cantt. on 12th - 13th December 2008. Headquarter Technical Group EME is responsible for providing engineering support to the entire range of equipment of the Indian Army, right from design to discard. It undertakes numerous activities to ensure that engineering support is provided to equipment and weapon systems by the Corps of Electronics and Mechanical Engineers (EME) in a planned manner. The Technical Group operates in a creative environment by pooling in the best available talent in the Corps of EME. HQ Technical Group EME has joined hands with the IPE to organise a seminar on "Design for Maintainability". The seminar will provide a platform to deliberate upon the subject with a view to disseminating latest practices to the environment and give a wider audience to design ideas for maintainability.

## The Indian Institute of Metals (IIM)

A two-day's National Seminar on "Special Purpose, Strategic and Futuristic Materials for High Technology Sectors" was organized by Trivandrum Chapter at Trivandrum on October 16-17, 2008. IIM, Delhi Chapter, in association with Chandigarh, Hisar, Jaipur, Kanpur, Khetrinagar and Roorkee Chapters, organized the 46th National Metallurgists Day, 62nd Annual Technical Meeting (NMD-ATM), International Conference on "Towards Global Leadership in Minerals & Metals Industry" and the 7th International Technical Exhibition on "Minerals, Metals, Metallurgy & Materials (MMMM 2008)" at the India-Expo Centre, Expo XXI, Greater Noida Expressway during November 13-16, 2008. Experts made presentations on diverse topics – covering steel, raw materials, infrastructure, energy, sustainable development, HRD and so on. The four-day international exhibition covering minerals, metals, metallurgy and materials showcased the latest in technological capabilities developed in India and abroad. Over 300 companies, from 35 countries, engaged in manufacturing, plant and equipment supplies and consultancy participated. Ghatsila Chapter of IIM organized a National Seminar on Development in Non-Ferrous Industries at Ghatsila on November 21-22, 2008. Ranchi Chapter of IIM organized "Ranchi 2nd International Conference on Thermo-Mechanical Simulations and Processing of Steels" on December 9-11, '08. An International Conference on "Coking Coals & Coke Making: Challenges and Opportunities (ICC 2009)" is being organized by the Ranchi Chapter of IIM on January 20-22, 2009 at Ranchi. IIM Pune chapter is organizing one day workshop on surface Engineering followed by the most prestigious Dr. Dara P. Antia memorial lecturer in the afternoon on January 23, 2009 at TRDDC, Pune. The workshop is expected to attract professionals from BARC, DRDO labs, and automobile industries. This will provide unique platform for the exchange of ideas and knowing state-of-the-art development in Surface Engineering. The topics covers functional coatings, PVD, PCVD, Cryotreatment of materials, plasma assisted technology, advances in surface Engineering, etc. The Salem Chapter of IIM is organizing a National Conference on "Steel Making" in February, 2009 at Salem, Tamil Nadu. The Department of Metallurgical and Material Engineering and the Student Affiliated Chapter of the Indian Institute of Metals, Kolkata Chapter are jointly hosting an annual technical program METALLIX on 20<sup>th</sup> and 21<sup>st</sup>. February 2009. The first day of Metallix will commence with a national Symposium on "Design and Engineering of Steel Plants" while the second day will be reserved for student activities like Paper Presentation, poster Presentation, Metallography contest to name a few. The event is to draw participation from leading industry houses

like M.N. Dastur and Co, Tata Steel and DSP, as well as Engineering students from all over India.

## The Institution of Electronics and Telecommunication Engineers (IETE)

51<sup>st</sup> Annual Technical Convention & Exhibition on 'NGN in Converging Regime' was inaugurated at 1000 hrs on Monday, the 29 September, 2008 at Jacranda, Habitat World at IHC, Lodi Road, New Delhi 110003 with Shri NR Narayana Murthy, Chairman of the Board and Chief Mentor, Infosys Technologies Ltd., Bangluru as the Chief Guest. He was also conferred the Honorary Fellowship of the Institution. Shri A. Bhaskaranarayana, Scientific Secretary, ISRO/Director SCP, Bangluru delivered the 40<sup>th</sup> Bhabha Memorial Lecture on 'Space Technology for Societal Applications'.

## Indian Society for Trenchless Technology (IndSTT)

### Mega Drill Show 2008



*P. R. Swarup, Director General CIDC and Mr. Peng Wang of M/s Drillto releasing General Condition of Contract for HDD Crossing (GCC-HDD)*

Indian Society for Trenchless Technology (IndSTT), supported by several associates organizations organized "Mega Drill Show" at New Delhi, during 4th & 5th December 2008. The show had four sub events namely, release of reference manual, workshop, exhibition and round table conference. P. R. Swarup, Director General CIDC and Mr. Peng Wang of M/s Drillto released General Condition of Contract for HDD Crossing (GCC-HDD), Model Consultancy Contract for HDD Crossing (MCC-HDD) and "No Dig India" journal. Prof. Niranjan Swarup, Executive Director IndSTT, stated that the recent terror attacks in Mumbai forced the presenters of two workshops to cancel their trips to New Delhi and Ditch Witch workshop covering mixed soil & rock drilling was conducted by Dr. Garald Stangl and Mr. Richard Levin through webex conferencing between India, US and Singapore. The Ranaul workshop was conducted by Mr. Ranabir Paul, Mr. Griesinger and Mr. Tapan Sarkar where the Hydraulics of HDD machine was explained in detail by Mr. Ranabir Paul & Mr. Griesinger. In the exhibition sixteen display stands were installed where exhibitors had brisk business interaction with participants. Four nos. of HDD rigs were also displayed in the exhibition area by different manufacturers and as per information provided by the exhibitors, five rigs were sold during the event. A huge number of visitors apart from the delegates visited the exhibition and interacted with the various service-providers. Day 1 had 250 recorded visitors' foot falls and day 2 had 150. In addition to the registered foot falls, floating visitors' foot falls for these days were reportedly around 100 for each day. A small function was also held in the exhibition ground to hand over the keys of the sold out rigs. Reportedly, substantial business was conducted during the sub events. On Day 2<sup>nd</sup>. Apart from the exhibition, the DCI workshop on Tracking for Mega Drills & HDPE pipe installation was conducted by Mr. Ehteshamul Haque and Mr. Josheph where different type tracking tools and their application was discussed in details along with the HDPE pipe installation. The sub events ended with round table conference with stakeholders to chart the future course of action for all the stakeholders in HDD activities.



## Recommendations of the 6th National Conference : Re engineering Engineers held on November 28, 2008 at New Delhi

1. Re-engineering of engineers implies to re-engineer their skills for meeting the challenges of emerging global scenario and taking part in trade in engineering services opening up of which is round the corner. Today, a person, who acquires a degree in engineering from an engineering college or university, does not become an engineer with skills that the present global scenario demands. All engineers involved in practices such as teaching, research or working in industries or in the governmental or regulatory bodies need re-engineering.
2. Just like other professions, engineering has now-a-days become multi-disciplined and multi-directional. Today, engineering involves men, materials, machines and energy. Engineering, therefore, requires the creative imagination to innovate useful applications of the natural phenomena. Creativity or innovation in engineers is the today's need. They are required to optimize on using natural sources of energy and materials to meet the growing competition. They have to handle mega projects of integrated technologies and designs.
3. Today, engineers need to have visualization/spatial ability skills through their cognitive lateralization which increase creative and innovative capability, enhances performance encompassing engineering design, mathematical and CAD activities.
4. Development of communication skills among engineering students/engineers should be attached topmost priority as their workplace requires it for their effective functioning. Likewise, group working skills assume priority over academic ability.
5. For better employability of engineers, curricula at the undergraduate level need to be re-engineered by introducing courses on communication and information technology, interpersonal skills such as working with others, problem-solving including critical and lateral thinking, reflection and objective reasoning, positive attitude to change including understanding of the arena of work, group- and team-working abilities, project management and other generic skills coupled with the development of a flexible learning environment leading to inculcation of pedagogic integrity, etc.
6. The engineering curricula also need re-engineered for making it purposeful in the field-application by incorporating skills and experience concerning environmental sustainability and social concerns. Disaster management needs to be incorporated in the engineering curricula.
7. The engineering courses should address important issues such as unsatisfactory attrition rates between the various engineering programmes, the national changing requirements for registration as a Professional or Chartered Engineer, need to manage and control faculty input to course delivery.
8. Engineering students and aspiring young engineers should be given increasing responsibility for taking charge of their own studies and the engineering courses should be open-ended, constructive, inventive and investigative coupled with assignment-work involving groups of students.
9. Commitment to life-long learning and continuing professional development assumes priority over the theoretical contribution to research-focused projects.
10. Efforts should be made to restrain the engineers from moving out of engineering into areas like finance, marketing, human resource development and so on.
11. As a part of re-engineering engineering education, one may also consider the need for having one composite degree in engineering and management.
12. The associate membership certificates awarded by the various member associations of the ECI need to be recognized by some university so that persons having these certificates become equal in academic sense with that of a degree holder in engineering from a recognized university.
13. The engineering consultancy should be attached importance by bringing about a change in the Indian mindset. Practicing engineers and engineer consultants should also be involved in teaching. They will bring a very rich experience in teaching and setting syllabus and will not be competitors of the main faculty. It will help in building up of the much needed Industry-Academia partnership
14. India should become a leader of knowledge economy through enhancing the standards of the engineering education in the country.
15. The culture of accountability, leading to the culture of sincerity in the profession, must be infused in the engineering institutions.
16. The foreign direct investment in the field of Indian engineering education system should be encouraged with a view to reducing the high financial expenses involved in it.
17. The indigenous engineering education system should also be consistent with the requirements of the developing and growing economy and the emerging democratic polity.
18. There is a clear requirement for a significant staff development initiative so as to cope with the industry challenges. The staff development initiative, therefore, needs to move away from teacher-led activity to facilitating and supporting the learning process, encouraging and developing skills within students thereby allowing them to become independent learners, promoting and developing generic key aspects of sustainable employability and accommodating the realization that the student expectations will increase as and when they are required to contribute financially towards the cost of their higher education.
19. Engineers must be able to understand and have appreciation of the legal and statutory provisions guiding his/her work, obligation to the society and accountability, risks and rewards of his/her work, codal provisions – IS/BS/NB Code/ISO, quality assurance needs and safety and health requirements.
20. Acquisition of additional skills concerning the core professional value such as creativity, clean environmental sustainability-cum-development, societal benefits, etc. is essential for all professionals before they can start practising their profession.
21. Re-engineering engineers requires the immediate attention of the various statutory bodies, academics and bureaucrats involved in the engineering education with a view to considerably enhancing the employability of the passing-out engineers.
22. The Draft Engineers' Bill should be converted into an Act without further lapse of time in order to provide necessary statutory backing to the engineering profession.
23. A mechanism for facilitating the exchange of professionals for short periods between academic institutions and industry should be worked out so as to provide an opportunity for the them to have a hands-on experience of the "other side of the fence". For this purpose, a cross-functional Team should be constituted to work out the modus operandi.

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