

ASCE

AMERICAN SOCIETY OF CIVIL ENGINEERS

INDIA SECTION

Issue 24, September 2013

asce.is.email@gmail.com

President's Message

Dear members,

The September Issue of News letter of ASCE IS brings the news contents related to the visit of the ASCE leadership to India consisting of ASCE President Gregory E. DiLoreto, P.E., P.L.S, D.WRE, F. ASCE, Executive Director, and Chief Staff Officer and Secretary Patrick J. Natale, P.E., CAE, F.ASCE, Meggan Maughan-Brown, MPA, CAE, CMP, Aff.M.ASCE, Director, International Relations. They visited New Delhi, Mumbai and Kolkata and had excellent interactions with many engineering bodies and Institutes such as Institution of Engineers (India), IIT Delhi, IIT Mumbai and others. In the round table meeting with all representatives of India section, they discussed the development of ASCE's global strategy and how the Section could work to help the Society accomplish its goals.

The month of September is special for Engineers and many organizations all over the Country celebrate "Engineers Day" on 15th September, every year to commemorate the birthday of Bharatha Ratna, Eminent Engineer Statesman, Sir M Visveswaraya (15th Sep 1860- 14th Apr 1962). His contributions to infrastructure in India in the pre Independence era are phenomenal and he was a visionary. He needs to be remembered and his contributions need to be revisited regularly to get inspiration. He was known for sincerity, time management and dedication to a cause. I was in Mysore on 14th September 2013 to inaugurate the student chapter in Sri Jayachamarajendra College of Engineering (often shortened to SJCE), Mysore and made a presentation on "ASCE and the role of student chapters of ASCE in India". Many students, faculty from SJCE and heads of department of civil engineering of a few colleges in and around Mysore attended. I stressed on the role played by ASCE as a professional organization, its emphasis on ethics, codes of practice and professionalism in engineering practice today. We need many young and dedicated civil engineers in the country today and they come from students. I also highlighted the importance of student chapters in different parts of India and the activities of student chapter in Vellore Institute of Technology (VIT) for the past one year. I do hope that all the regions (East, North, South and West) become active in organizing professional activities in this year and also involve students.

Best regards
Prof. G L Sivakumar Babu
President, ASCE IS

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ASCE Round Table Meeting 10th August 2013, New Delhi

The following officers of American Society of Civil Engineers (ASCE), USA and newly elected ASCE India Section leadership attended the round table meeting.

ASCE, USA Leadership

Gregory E. DiLoreto P.E., P.L.S., D.WRE, F.ASCE	ASCE President 2013
Pat Natale, P.E., F.ASCE	Executive Director
Meggan Maughan-Brown MPA, CAE, CMP, Aff.M.ASCE	Director International Relations

ASCE India Section Leadership

Prof. G L Sivakumar Babu, M.ASCE	President - India Section
Dr. Sireesh Saride, Ph.D., M.ASCE	Secretary
Dr. Anbazhagan Panjamani, Ph.D., M.ASCE	Treasurer

India Section - Eastern Region

Mr. Sandip Kumar Deb, M.ASCE	President - Eastern Region
Mr. Srirup Mitra, M.ASCE	Secretary
Mr. Rudraprasad Bhattacharyya, M.ASCE	Treasurer

India Section - Western Region

Mr. Arvind B Shah, P.E., F.ASCE	President - Western Region
Prof. Ravindra Ringshia, M.ASCE	Secretary

India Section - Northern Region

Mr. Satish Kumar Vij, M.ASCE	President - Northern Region
Prof. N.T. Rao, M.ASCE	Treasurer

India Section - Southern Region

Prof. B. K. Raguprasad, Ph.D., A.M.ASCE	President - Southern Region
Mr. K P Pradeep, A.M. ASCE	Secretary
Mr. Srinivas. P. Anchuri, M. ASCE	Treasurer



The ASCE round table meeting was conducted at Sheesh Mahal of Hotel Taj Palace, New Delhi, India. The meeting started at 10:30 am with the President, Mr. Di Loreto's welcome address followed by India Section president, Prof. Babu's welcome note.

Mr. President, ASCE installed all the newly elected India Section officers for the period 2013-2014 at 11:00 am. India section officers took the oath of office to render their services to the society for the period elected with honesty and integrity.

Mr. Di Loreto addressed the gathering and discussed the global issues related to Sustainability in Infrastructure Development. Mr. President briefly discussed the following aspects:

1. National Green Building Council, LEEDS of USA
2. Leadership in Energy and Environment Development system (LEEDS)
3. Envision™ Credit List
4. www.sustainableinfrastructure.org
5. Institute for Sustainable Infrastructure (ISI)
6. Sustainability project profiles
7. ASCEville: Introducing sustainability concepts to 8 to 12 year kids

The presentation was followed by Mr. Patric Natale, ASCE Executive Director's report card. He explained how the ASCE has implemented its policies in various sectors of Civil Engineering in the United States.

After the report card and lunch, extended discussion took place on India Section's By laws and governing documents. Mrs. Meggan provided considerable inputs with regard to ASCE and its relationship with Sections, the role of student chapters etc. The meeting has been concluded by the vote of thanks proposed by Prof. Babu.

News from Regions

Eastern Region News

ASCE President's Visit to Eastern Region, August 15, 2013

Mr. Gregory E. DiLoreto, President, American Society of Civil Engineers, along with Mr. Patrick J. Natale, Executive Director, and Mrs. Meggan Maughan-Brown, Director, International Relations visited Kolkata on August 15, 2013. On arrival, they were received and welcomed by Mr. Sandip K Deb, President, ASCE-IS(ER) and Mr. Srirup Mitra, Secretary, ASCE-IS(ER) at the NSCBI Airport, Kolkata.

The following morning, ASCE President and his colleagues started a pre-scheduled Breakfast meeting with the local leadership of ASCE-IS-ER to discuss various important and critical internal issues which included future activities, further planning of type of event, and development of membership in the region in particular. Dr. Anil Kar, the immediate Past President of ASCE-IS appraised Mr. DiLoreto on present activities of the Eastern Region and suggested some valuable inputs for future operation of ASCE in India primarily based on his experience of heading and handling of ASCE-IS activities over the past two years. The leadership assured Mr. Gregory about stretching their agenda by forming International Student Groups and Technical Groups at different engineering institutes. Raising of funds for the region through collaboration with the industry was also briefly discussed in the meeting.

Immediately after the breakfast meeting at the Hotel, the entire ASCE delegation was escorted to their next destination the "Narula Institute of Technology", about 30 Km. from Kolkata. On arrival, the team of Mr. Gregory E. DiLoreto and ASCE-IS-ER leadership were cordially received by the Head of Civil Engineering Department and other faculty members. Students of Civil Engineering greeted Mr. Gregory and other delegates with flower bouquet. Principal and Dean (Academic) of the institute gave a warm welcome address to the team. The ASCE President delivered a small talk on 'Sustainable Infrastructure Development' to a reasonably big audience of Civil Engineering students and faculty members. He briefly explained the necessary actions to be taken up by present students to achieve sustainability in projects they would do after they join professional field. He clearly delineated the benefits and scope a student can obtain and explore through his/her ASCE student membership. The president also put a proposal to the students to prepare a 'Report Card' on the infrastructures of India taking cognizance of similar work done for cities in US. At the end of the programme, Mr. DiLoreto presented a token gift to Mr. Ayon Bagchi, the first student member of ASCE from Narula Institute of Technology. The program ended with a vote of thanks and the ASCE delegation left the institute with their host officers of ASCE-IS-ER.



The next destination of the delegation was the infamous "Bengal Engineering & Science University, Shibpur (BESUS)" (erstwhile Bengal Engineering College), the second oldest Civil Engineering College in India, founded in 1856, almost at the same time ASCE was established in US (1952). The ASCE President and his entourage were welcomed at the University campus by the Civil Engineering faculty. The meeting with the Vice Chancellor, Deans and faculties of Civil Engineering started at 1:00 pm. Prof. Kalyan Bhar, PhD, Head, Department of Civil Engineering initiated the proceedings by presenting a brief and glorious history of the BESUS in general and Civil Engineering Department in particular, through a power point presentation. Mr. DiLoreto invited the faculty to become members of ASCE and take active role in sustainable development. Prof. Ajay Kr. Ray, Vice Chancellor, in his address, offered his full support if ASCE wanted to organise any of its future International Technical events at BESUS. He further requested the ASCE President to provide some special package under which all the faculty members of Civil Engineering Department could become members of ASCE at a discounted rate. Mr. Patrick Natale, Executive Director, assured that ASCE would work out and send such a proposal on their return to US. He further added that under the proposed package, the Department could be entitled to receive a copy each of all the Civil Engineering Journals of ASCE at





a much discounted rate or if possible free of cost. The meeting was followed by Lunch hosted by ASCE-ISER at the University premises.

At around 3:00 pm in the afternoon, Mr. DiLoretto met the students of Civil Engineering Department at their Seminar Hall. He addressed the eager young minds about their responsibility in sustainable design and construction. Following his address, the floor was open for the students to ask direct questions to the ASCE President. Reasonable and logical questions were put forward to the ASCE delegation by the students. Such interaction turned out to be very effective in letting the students realize the stature and importance of ASCE in developing them into qualified civil engineers in future. At the end of the session, the Vice Chancellor asked the students that they might consider preparing a report card of the existing infrastructures with the help of ASCE's experienced team. Finally the vote of thanks was given by the Mr. Sandip Kumar Deb, President, ASCE-IS-ER.



The final and most interesting programme of the ASCE President's Kolkata visit was scheduled at 7:00 in the evening at the prestigious Williamson Magor Hall of the Bengal Chamber of Commerce and Industry (BCCI). It was entitled "President Meets Industry & Academia" a Round Table Conference (RTC). The Conference started with a welcome address by the ASCE-ISER President. Following this, ASCE-IS-ER felicitated President DiLoreto by presenting him with a memento. The ASCE President then hand over the Certificates of Appreciation to Dr. Anil K Kar, the immediate past President of ASCE-IS and Dr. Ayanangshu Dey, Immediate Past Secretary of ASCE-IS for their outstanding performance in elevating the esteem of the ASCE-IS at a high level. The President then addressed the august gathering of the leaders of Civil Engineering Industry and Academia. He stressed on sustainable development of urban India and the immense responsibility shared by civil engineers in realizing such an undertaking. M/s. MN Dastur & Co. delivered a brief presentation on the profile and services of their company. The interactive session of the RTC became a most interesting one with a list of questions being asked about the relevance of ASCE to development of civil engineering in an Indian perspective. Mr. Amitabha Ghosal from STUP Consultants, Mr. Nilangshu Bhusan Basu of Kolkata Municipal Corporation, Mr. V G Shanbhag of Gannon Dunkerley, Mr. Neil Banerjee of AECOM, Mr. Sutanu Ghosh of Ghosh Bose & Associates, Mr. BK Mundra of Simplex Projects Ltd., Mr. Barun Dev Lahiri of L&T, Mr. DK Dhar of Structural Design Consortium, took active part and made the RTC a grand success.

The brief tour of the ASCE President and his Team to Kolkata came to an end after a gala dinner hosted in the honor of the Presidential visit at the Palladian Lounge, contained within the same facility. The above guests and all members and officers of ASCE took part in the Presidential dinner along with their spouses.

Northern Region News

ASCE President Visit to DMRC Head office August 7th 2013

ASCE-IS-NR leadership Mr. S K Vij President NR and Secretary Mr. Arif SIDDIQUI organized the visit of visiting ASCE President Mr. Gregory Di Ioritto, Executive Director Pat Natale and International Director Ms. Meggan Brown on August 7th 2013. The visit intended to understand the potential mutual exchange of technical expertise in Metro rail construction system.

DMRC CMD Mr. MANGU SINGH Chaired the meeting, all the Directors of DMRC were present during the meeting. Mr. S K Vij moderated the session Meeting started with the introduction of all the presentees and then went on for an interactive session lasted for one hour. Many good ideas were exchanged. DMRC Director BD Mr. S D Sharma gave a presentation on the DMRC journey, through technical challenges, which impressed the visitor and they requested DMRC to provide a writeup for publishing in their Civil Engineering Magazine. DMRC PRO Mr. Anuj Dayal shall be a point of contact for the ASCE International for future communications.



From L-R Mr SK Vij President ASCE IS NR, Mr Mangu Singh CMD DMRC, ASCE President Gregory Di Ioritto, ASCE Executive Director Mr PAT NATALE

ASCE President Visit to Delhi Technological University August 8th 2013



ASCE-IS-NR leadership Mr. S K Vij President NR and Secretary Mr. Arif SIDDIQUI organized the visit of visiting ASCE President Mr. Gregory Di Ioritto, Executive Director Pat Natale and International Director Ms. Meggan Brown on August 7th 2013 to Delhi Technological University. The visit intended to understand the potential mutual exchange of technical expertise in the field of Academics.

Vice Chancellor of DTU Mr. Sharma received the guests along with the faculty. There was an elaborate discussion on the subject and few good ideas were considered for further discussion.

Southern Region News

Dr. Rajib Basu Mallick, Ralph White Family Distinguished Professor, Civil and Environmental Engineering Department, Worcester Polytechnic Institute (WPI), USA gave a lecture on the "Use of System Dynamics to Evaluate Long Term Economic and Environmental Impacts of Climate Changes and Engineering Decisions and Develop Sustainable Practices" on 16th August 2013 at 12.00 Noon in the Conference room, Department of Civil Engineering, Indian Institute of Science, Bangalore. The abstract of the talk is as follows.

System dynamics is an approach that helps us develop a strategic view of a "system", which could be an industry, society or a nation, by modelling the different parts and simulating the dynamics of interaction between the different parts. This helps us determine the changes over time, and hence develop a view which could not be obtained from "spot" studies, that are conducted with either a few of the critical elements of the system or within the confines of a specific time (second, hour, day or year) time. One of the most powerful elements of this approach is the ability to "link" elements and model the interdependencies of the various elements across disciplines (for example climatic science and civil engineering). Known as causal (or feedback) loops, these links help us to understand the dynamic nature of a problem, and simulate the systems over time.

The important aspect of simulating "over time" is that whereas impacts (such as that of un-sustained growth in population or con-



Dr. Rajib's Lecture

struction) may appear to be linear over a short time period (say a span of five years), in reality, they may be of exponential nature over a decade or a few decades. Having the ability view this change over a long time period is essential for developing policies for an industry or society or a nation, to make sure that the far reaching consequences of adoption of these policies are indeed beneficial in the long run. This ability can help us select good policies from bad policies - policies may appear to be "good" in the short term, but in the long term may have disastrous consequences, and only a proper system dynamics model can capture it. Another key aspect of system dynamics approach is the ability to show the root cause (or causes) of a problem, and prevent us from finger-pointing each other. This is because, a good system dynamics model can include all of the essential elements, and their interdependencies and hence, the relational dynamics.

Prof. Rajib presented the concept of system dynamics, discussed the different steps in the modelling process, components of a typical model and illustrated its use in Civil Engineering with the help of examples that are related to the effects of depletion of natural resources such as aggregates on costs and emissions, effect of climatic changes on pavement performance and maintenance costs, and holistic consideration of design, construction and maintenance of civil engineering structures for the maximum benefit of the society.

Symposium on Landfill Engineering: Perspectives and Practices

A Symposium on Landfill Engineering: Perspectives and Practices was held at Indian Institute of Technology Hyderabad (IITH) on August 06, 2013 which was organized in association with Department of Civil Engineering, IITH, and Indian Geotechnical Society Hyderabad.

One of the primary reasons for conducting this event is that the Landfill Engineering research is rapidly expanding into many new and emerging fields as well as there is a significant research in ongoing themes. Consequently, the landfill engineering research covers a wide range of disciplines such as geotechnical engineering, ground and surface water hydrology, chemistry, microbiology, and themes related to societal impacts and policy planning and implementation. In India, Municipal Solid Waste (MSW) Landfill education is mostly at graduate level and varies from place to place depending upon the available expertise and resources. The primary objective of conducting this symposium is that the students get exposure to a range of topics so that they would be prepared to face the challenge of fast changes in the field of landfill engineering resulting from new and emerging technologies.

Three Eminent speakers from USA, Ireland and India assembled and shared their experiences and presented technical lectures on the design of landfills. To name, Prof. G L Sivakumar Babu from IISc Bangalore, the president of ASCE India Section, Prof. Krishna R Reddy, M.ASCE from University of Illinois Chicago, USA, Prof. V. Sivakumar from Queen's University, Belfast, Northern Ireland and Dr. B. Chakradhar, Vice President, Consultancy at Ramky Enviro



Left to right: Dr. B. Umashankar, Dr. B. Chakradhar, Prof. G. L. Sivakumar Babu (President of ASCE India Section, Southern Region), Prof. Krishna R Reddy, Dr. S. Sireesh, Dr. B. MunwarBasha.



Audience of the symposium

Engineers Ltd., Hyderabad, India, delivered lectures during the symposium.

Dr. Sireesh has welcomed the gathering and invited Prof. Babu, President, ASCE India Section, Prof. KVL Subramaniam, Head, Dept. of Civil Engineering, Prof. M. R. Madhav, Mentor of IGS

S.No	Topic of Presentation	Speaker
1	Role of stress-deformation characteristics of Municipal Solid Waste in landfill design	Prof. G L Sivakumar Babu
2	Design of Bioreactor Landfills	Prof. Krishna R Reddy
3	Critical assessment of hydraulic conductivity measurement (Using British Standard, Accelerated Permeability, Ramped Permeability and Bench Top Centrifuge Methods)	Prof. V. Sivakumar
4	Some case studies and the current state of practice of MSW landfills at Hyderabad	Dr. B. Chakradhar

Hyderabad Chapter on to the dais. Prof. Babu and Prof. Madhav have expressed that the symposium on Landfill Engineering is timely. Prof. K V L Subramaniam inaugurated the symposium. Over 60 delegates from various Engineering colleges and Industry have attended the symposium and made it a grand success. The following list of technical lectures were presented during the symposium.

Prof. M. R. Madhav, Emeritus Professor from JNTU College of Engineering Hyderabad & visiting Professor, IITH, chaired the first session. A lively high tea break after two lectures delivered by Prof. G. L. Sivakumar Babu and Prof. Krishna R Reddy provided a very good interaction between the speakers and delegates. After the tea break, Dr. B. Uma Shankar, Assistant Professor from IIT Hyderabad

conducted the second session. In this session, Dr. Chakradhar has given an overview of the current practices adopted by the Hyderabad Metropolitan Development Authority (HMDA). He described how the waste has been collected and segregated for recycling before it is being sent to the landfill site in Hyderabad city.

Just before the concluding session, long discussions were held among the participants with the speakers discussing the exchange of information on the current state-of-the-art and the state-of-practice of landfill Engineering. It was felt that the gap between landfill engineering researchers and practicing engineers has to be filled up with more interactions. The symposium was concluded with vote of thanks proposed by Dr. Munwar Basha.

Western Region News

Report on Meeting of ASCE President with ASCE-IS-WR Members on August 13, 2013

The ASCE-IS-WR was privileged to host Mr. Gregory E. DiLoreto, President, Mr. Pat Natale, Executive Director and Ms. Meggan Maughan-Brown, Director of International Relations of ASCE on August 13, 2013. In addition to the Western Region members of ASCE, leaders of several allied professional bodies such as American Concrete Institute (ACI), Institution of Engineers (India) (IEI), Indian Concrete Institute (ICI) and Professional Engineers, Architects, and Town Planners Association (PEATA) met with the ASCE delegation.

During the meeting Mr. DiLoreto informed that the ASCE has over 140,000 members. He also mentioned that outside of the USA, India has the largest number of ASCE members. In order to connect better with its members in India and to add value to the Indian members, the ASCE plans to initiate suitable programs and initiatives. He mentioned that the visit of his team was primarily undertaken to understand the needs of the civil engineers in India so that the ASCE can develop programs for their benefit. He further mentioned that during the visit to Mumbai he had an opportunity to meet top management in several civil engineering companies and was very impressed with their work.

Mr. Pat Natale, in his address, mentioned that the visit of ASCE President to Mumbai is the first of many such visits from ASCE to India. The ASCE plans to discuss the findings from the India visit soon, and more focused visits will be undertaken in future. He reiterated the pleasure of getting opportunity to interact with the ASCE members and other distinguished guests, and hoped that such meetings will be regularly organized by the Western Region.

Mr. Arvind Shah, President, ASCE-IS-WR gave a brief report of the activities in western India during the last one year. He informed that the Western India International Group was formed around 15 years ago, and had made tremendous contributions to propagating the objectives of ASCE in western India through various semi-



Mr. Gregory DiLoreto and Mr. Pat Natale with ASCE-IS-WR Board of Directors



Mr. Pat Natale with Prof. Soli J. Arceivala

nars and other technical activities. The Group was recently upgraded to Western Region which will provide better opportunities to serve the needs of the ASCE members in western India. He also shared plans to hold major seminars during the next one year. Prof. Ravi Sinha, Secretary and Mr. Ravindra Ringshia, Joint Secretary-cum-Treasurer of ASCE-IS-WR also addressed the gathering.

The ASCE-IS-WR welcomed several distinguished participants to the meeting, including Professor Soli J. Arceivala, Distinguished Member of ASCE. Mr. Arceivala has been a guiding spirit of Western India International Group and later the Western Region. Other prominent distinguished participants included Ms. Malini Shankar, Principal Secretary of Command Area Development, Maharashtra and Mr. Niranjn Hiranandani, Managing Director of Hiranandani Group of Companies.

In his address, Mr. Niranjn Hiranandani mentioned the emerging opportunities in construction sector in India. He pointed out the gap between housing demand and its availability. He stated that the sheer size of the required investment is a very good indicator of the future growth of construction industry in the country.

Ms. Malini Shankar, in her address, informed about the challenges in water supply. The state of Maharashtra is water-stressed and several areas of the state face severe water shortage. Several water supply schemes have been designed and implemented during the last few decades; however the performance of many schemes is found to be unsatisfactory. She reiterated the need to implement effective water supply scheme to the parched areas of the state and the important role that civil engineers need to perform.

The meeting was organized through the outstanding efforts of ASCE-IS-WR Director Hiten Mahimtura, who ensured that the full cross-section of civil engineering leadership in Mumbai is present to interact with the ASCE delegation. The meeting was attended by over 200 engineers, architects and other professionals.

Tech Briefs

New eastern Bay Bridge used Green Concrete to Lessen Environmental Impact



Courtesy: www.sfexaminer.com

Among the many innovative features of the Bay Bridge's new eastern span has been the use of green concrete thus helping it to achieve a lower carbon footprint than its predecessor. By using cement containing recycled materials in lieu of conventional Portland cement carbon dioxide output was reduced by at close to 60 million pounds according to Jeff Davis, VP and General Manager of Central Concrete Supply Co., which engineered more than 40 mixes specifically for the new span.

The environmental impact is 20 to 25 percent lower than that of Caltrans public works projects prior to Assembly Bill 32, California's 2006 Global Warming Solutions Act, which requires the state to reduce greenhouse gas pollution to 1990 levels by 2020.

Central Concrete, the local operation of U.S. Concrete, readily took on the "uncompromising demands" the project presented, according to Greg Allen, manager for MCM Construction Inc., a lead contractor.

Since first becoming involved in the Bay Bridge project in 2001 by supplying equipment and technical expertise, Central Concrete has delivered more than a quarter-million cubic yards of its product -- equivalent to covering a football field 153 feet deep.

The concrete's green qualities do not compromise its performance, Davis said, which is extremely high and designed to last more than a century.

In a first, designers use cement-free concrete for suspended construction at University of Queensland

Designed by Hassell Assell in collaboration with Bligh Tanner, Arup and Medland Metropolis, The University of Queensland's Global Change Institute (GCI), has become the first building in the world to utilise cement-free concrete for suspended construction. The AU \$32 million building which meets the world's most advanced levels of sustainability was officially opened by Her Excellency Dr Penelope Wensley AC, Governor of Queensland recently.

The designers in a bid to achieve maximum green rating used geopolymer precast concrete that replaces cement with Flyash in



Courtesy: www.architectureanddesign.com.au

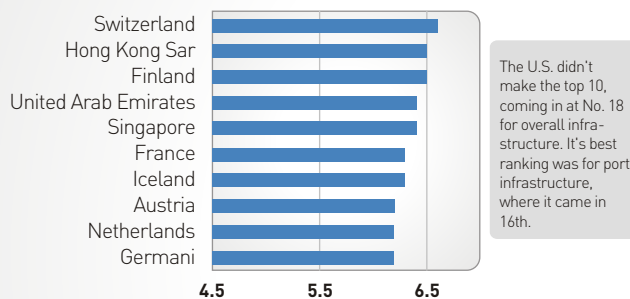
the mix for constructing all 33 precast floor beams in the new GCI building. Comprising sand, aggregate and a binder that contains ground granulated blast furnace slag, a waste product from steel production, and fly ash, a waste product from coal fired power generation; cement free concrete does not use the normal dose of Portland cement (PC). This allows it to have very low CO₂ emis-

sions as compared to normal PC based concrete. The precast panels with cast in hydronic pipes also play an integral part of the building's low energy and passive cooling modes. Up until this point, geopolymer has only been used in trials for ground bearing pavements, masonry blocks and other low level structural applications.

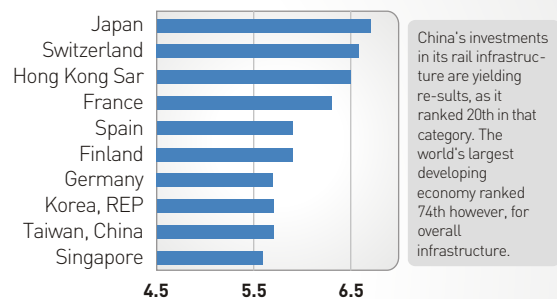
2012-13 Nations with the Best Infrastructure

The world Economic Forum has ranked the world's best nations for infrastructure based on quality of roads, railroads, ports, airports and more. The nations' infrastructure is ranked from 1 to 7, with 1 representing an extremely underdeveloped country and 7 being the most extensive and efficient system.

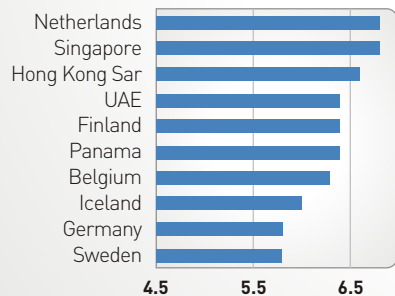
OVERALL INFRASTRUCTURE



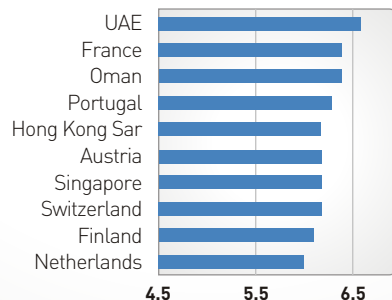
QUALITY OF RAILROADS



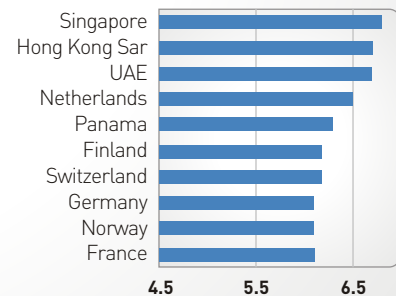
QUALITY OF PORTS



QUALITY OF ROADS



QUALITY OF AIR TRANSPORT



Source: WEF's Global Competitiveness | Report: 2013-2014

The World Economic Forum (WEF) has released its annual Global Competitiveness report that features a ranking of the world's best and the worst nations in terms of infrastructure. The rankings were an outcome of a WEF's executive opinion survey, which is a major component of the Global Competitiveness report. Respondents were asked to rate their nations' infrastructure on a scale from 1 to 7, with 1 reflecting significant underdevelopment and 7 the most extensive and efficient network.

"Competitiveness" measures how countries create the best economic, social and environmental conditions for economic development, WEF said in a video about the report. One of the 12 vital elements that WEF has identified as contributing to a competitive economy is the quality of a nation's infrastructure.

Other elements, including how a nation's institutions perform, the macroeconomic environment, technological readiness and capacity to innovate, also contribute to a nation's productivity and interact with other elements. For example, a nation that has invested in infrastructure has the ability to move its goods and people to where they need to be, in turn contributing to a nation's potential for innovation.

Leading the rankings on infrastructure were developed nations such as Switzerland, while poorer economies unsurprisingly fared worse. In terms of overall infrastructure, the bottom ranked nations were Myanmar, Guinea and Angola, with the latter coming in 148th out of 148.

Transformation of Water Towers in Stylish Homes

Conversion of warehouses, churches and barns are no longer extraordinary, or a challenge for those with vision to transform one-offs into comfortable living spaces. Instead, savvy investors are seeking out properties that are unique, stick out from the crowd and are likely to appreciate over time due to their rarity.

Water towers tick all of those boxes, plus as concrete reservoirs, they were built to last and are insulated from temperature extremes. In Europe, the water tower concept is already widespread. In Australia, a limited supply of water towers is finding their way on to the property market. Some have already been given a slick overhaul, with users attracted to the historical connections and unusual original features.

The below are a few creative conversions of once sky-high eyesores into stylish homes.

Tank house on the hill at Balmoral, Australia



House in the Clouds, UK



Fairytale tower, UK



James Bond tower, Germany



Courtesy: www.news.com.au/realestate/news

Russian developer to construct Western Europe's tallest skyscraper in Paris

Russian developer Hermitage has proposed a high-rise building costing about 3 billion euros (\$4 billion) on Paris's outskirts to elbow out the London Shard from its spot as Western Europe's tallest skyscraper. The project with two 320 meter-high (1,050 feet) towers in the La Defense business district, will house luxury apartments, offices and a five-star hotel. On completion the structures would surpass the 310 meter-tall London Shard.



The high-rise building to be designed by Foster+Partners will be named The Hermitage Plaza and will have towers of 85 and 86 floors and is slated to be completed by early 2019. Hermitage got permits for the two towers overlooking the Seine river and four smaller buildings in March 2012, according to Epadesa, the authority overseeing La Defense developments. The project envisages 165,000 square meters of apartments, 35,000 square meters for the hotel, 40,000 square meters of offices and 40,000 square meters of shops and restaurants.

Courtesy: www.bloomberg.com





**143RD ANNUAL
CIVIL ENGINEERING
CONFERENCE**

Charlotte, NC | October 9 - 12, 2013



Events

ASCE Events

The 23rd Annual Louisiana
Civil Engineering Conference & Show
September 25-26, 2013 | Kenner, Los Angeles

ASCE - 143rd Annual Civil
Engineering Conference
Civil Engineers - The Foundation of the Nation
October 9-12, 2013 | Charlotte, North Caroline

2nd T&DI Green Streets, Highways
and Development Conference
November 3-6, 2013 | Austin, Texas

3rd International Conference on
Urban Public Transportation Systems
November 17-20, 2013
National Conservatory of Arts and Crafts,
Paris, France

Other Events

Carbon Management
Technology Conference
October 21-23, 2013 | Hilton Alexandria Old
Town, Alexandria, VA

Innovative World of Concrete
ICI-IWC 2013
International Conference on
Innovations in Concrete for Meeting
Infrastructure Challenges
October 23 - 26, 2013
Hitex / NAC, Hyderabad, Andhra Pradesh, India

OTC Brasil 2013
An Event Organised by IBP and OTC
October 29-31, 2013 | Rio De Janeiro

International Colloquium on
Architecture Structure Interaction for
Sustainable Built Environment
Organised by: SEWC (India)

November 18-20, 2013 | India Habitat Centre,
Lodhi Road, New Delhi, India

International Conference on Trends and
Challenge in Concrete Structures
Organised by: ICI - Ghaziabad
December 19-21, 2013
Ghaziabad, NCR Delhi, India

Arctic Technology Conference
February 10-12, 2014
George R. Brown Convention Center,
Houston

The Fourth International fib
Congress 2014, Mumbai
February 10 - 14, 2014 | Renaissance Mumbai
Hotel & Convention Centre, Mumbai

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