

# AFCONS Insight

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## INNOVATION

Chenab Rail Bridge Project is commissioning world's largest cable crane at site

## FROM MD'S DESK



**H**ello everyone and welcome to another rich edition of Afcons Insight. Last time, I had spoken on how vibrancy leads to higher efficiency levels and acts as a motivating tool. I would like to take it a step further by asking all to focus on lean principles in a bid to increase our productivity.

Needless to say we are passing through a very tricky period. The price differentials are falling and people want the best of services at lesser cost. The demand is for better products at cheaper rates. Well, that's the trend and we have to live up to it. But how do we do it?

We have to innovate. And we can only bring in the change by adopting lean practices. Lean makes us battle-fit. It brings in

a lot of discipline and almost acts like a self-sustaining engine. If we wish to optimise our resources, methods have to be thought through, wastages have to be eliminated. This will push us to think out of the box, become more critical and analyse each and every step. Unless this becomes a routine in our day-to-day activities we cannot think of sustaining ourselves in a highly competitive environment as this.

New competitors are joining the fray and the equations are fast changing. This is a challenge not just for us but for everyone in the infrastructure business. This is forcing each one of us to review our strengths and weaknesses. It is now that we must embrace lean not as a crisis-control measure but as a practice integral to our overall operation.

According to me, lean is a very important driving force and it will enable us to review ourselves and our resources from a very critical angle. Let's eliminate the negative energy to allow innovation to take place. We want to move forward, don't we?

*K Subrahmanian*

## MAKING HEADLINES

- 1 The Ministry of Justice, Liberia**, has issued an Appreciation Letter for fabricating new fence inside the prison at Liberia on June 12, 2013.
- 2 TECNIMONT** has issued an Appreciation Certificate for successfully achieving 10 Million Safe Man hours at Opal Site, Dahej on May 31, 2013.
- 3 DMRC** has awarded an Appreciation Certificate for successfully achieving 2 Million Safe Man hours at CC-15, Delhi on May 14, 2013.
- 4 SP Jammu Udhampur Highway Pvt. Ltd** has issued an Appreciation Letter for successfully achieving 3 Million Safe Man hours at Jammu on May 5, 2013 .
- 5 ArcelorMittal** has issued an Appreciation Letter for successfully achieving 1 Million Safe Man hours at Liberia, Buchanan Project on April 13, 2013.
- 6 SP Jammu Udhampur Highway Pvt. Ltd** has issued an Appreciation Letter for successfully achieving 7 Million Safe Man hours at Udhampur on April 4, 2013.

**SPECIAL FEATURE**


**W**e generally feel research & development is done in peace and in highly-resourced laboratory or corner cabins in swanky offices. On the contrary, the best developments & innovations happen in difficult times of human conflicts with higher level of commitment. The Mulberry Harbour built for D-Day invasion of France in 1944 is a classic example of innovation. It was a portable temporary harbour developed by the British in World War II to help in rapid offloading of cargo during the Allied invasion of Normandy. The Royal Navy was assigned to build floating caissons breakwater, jetty and approaches. The entire pre-constructed modular structure was towed in three days and installed for operation. In a more recent example, electronic gadgets like smart phones and tablets have become a basic necessity of our lives. Their makers are constantly focusing on innovation and are highly committed towards delivering productive tools to stay ahead of the competitors.

**DIFFICULT TIMES**

In many ways, this has been a difficult decade. The continuing financial crisis, demographic issues in developed countries and the global slowdown in the infrastructure business has shown that we need an urgent overhaul of global governance. While the world is grappling with the changing business dynamics and industries are trying to turn the corner, many organisations are developing a leadership equipped to take a long-term view and re-define strategy. AFCONS



The cable crane at Chenab Railway Bridge Project can handle loads up to 34 tonne on single hook

# Innovation is the secret of a successful business

Best Developments & Innovations Happen In Difficult Times Of Human Conflicts And Under Pressure

Infrastructure Limited, over the past 50 odd years, has evolved through positive strategy-building measures. Innovation, which has become an integral part of the organisation, has helped it to look within for answers. "With the changing environment, our management has widened the spectrum of innovation from work related to business innovation as our mission. The company doesn't treat innovation as a separate process. It is deeply rooted in our culture," trills V Manivannan, EVP, Construction Plant & Equipment.



**Some of the innovations have put us much ahead of our competitors. Custom-built marine crafts, tools and methods have kept us ahead of time."**

V Manivannan, EVP,  
Construction Plant  
& Equipment

According to Manivannan, the organisation takes every detail in project execution into account and that helps in developing and adopting brilliant ideas/innovations. "Some of the innovations have put us much ahead of our competitors. Custom-built marine crafts, tools and methods have kept us ahead of time," he says adding "going forward we will be creating opportunity for everyone within the organisation to innovate. This will be implemented in three stages by top-to-down method."

AFCONS doesn't confine innovation to itself alone. It also looks at adopting innovative solutions provided by any of its joint-venture partners.

Here are a select ten from a host of innovations by AFCONS:

## 1 REDUCTION IN DIAPHRAGM WALL DEPTH INTO ROCK

A very challenging excavation of around 1000m of D wall could be avoided by adopting an innovative method of combination wall with D wall with shear pin and under excavation.

## 2 STANDARDISING SPAN ARRANGEMENT OF CULVERTS & BRIDGES

In order to optimise design and standardise span arrangement of Jammu-Udampur project, the engineers converted all possible span to standard 20 meters and also converted them as precast I girders. This saved time.

## 3 MARINE PILE LOAD TEST

AFCONS has introduced several unique features with the SAMRAT self-elevating platform. We conducted an off-shore compression testing of pile capability without any reaction piles which improved pile testing in marine condition and proved cost-effective too.

## 4 FULL-SPAN GANTRY CRANE AT HAZIRA

Introducing the gantry crane (61 m) proved the project could recover lost time and save cost. There was difficulty in arranging temporary structure but the method of working with gantry and under slung hoist simplified the off-shore lift operation.

## 5 ROOF TRUSS ERECTION TROLLEY

## FOR THE BULK FLAT STORE AT JORDAN

Developing a three-stage erection of roof truss with the help of temporary support trolley and stage-wise lifting by an available lower capacity crane solved several complications at Jordan.

## 6 ECB FOR CAPITAL EXPENDITURE

The finance team with the help of external commercial borrowing pegged the interest rate to maximum of 9% PA with all inclusive risk of foreign currency with hedging and interest rate. This helped us in heavy induction of capex.

## 7 CONVERSION OF TRENCH CUTTER INTO THE TUNNEL EXCAVATION

AFCONS converted two trench drum cutters into full face cutting of tunnel in Jammu-Udhampur project. This could be achieved by introducing a rotator thus providing an edge over conventional tunnelling.

## OTHER NOTEWORTHY INNOVATIONS

- Concrete Pumping in Vallarpadam Rail Bridge for a stretch of 2.1km which was a national record

- Adoption of Rowa technology in Rohtang Tunnel

- In-house manufacturing of the Jack-up barge

- Cable crane set up in Chenab Railway Bridge project is a record

- Mobilising the world's third-largest Hermod barge to achieve offshore installation (of the ICP-R Process Platform) at the shortest time

- Adoption of floatover technology for the HRD Process Platform

## 8 TBM RETRIEVAL GANTRIES

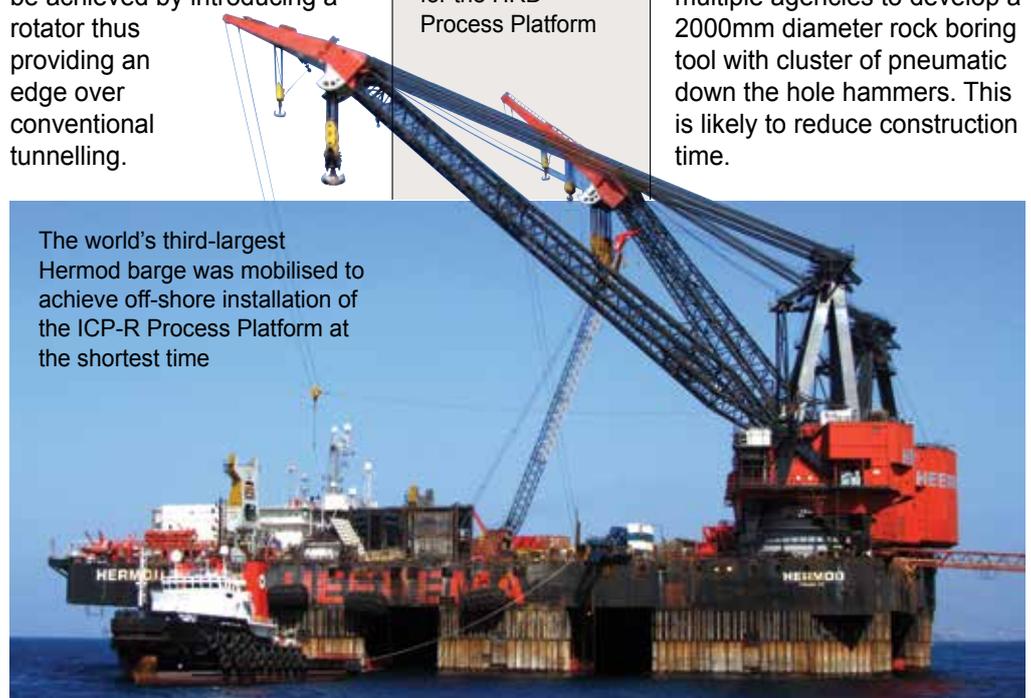
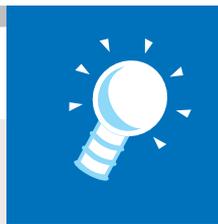
AFCONS planned to introduce a higher capacity crane for retrieval of TBMs from the shaft which had a high cost impact. But with the help of in-house design and tunnel engineers, we converted the scheme of crane to gantry and saved cost.

## 9 DEVELOPMENT OF IN-HOUSE PIPE GROOVING MACHINE

The AFCONS Chennai Metro CPE team has built a pipe grooving machine with the available materials at project. The team is also working towards developing a cement grout pump.

## 10 DEVELOPMENT OF LARGE CAPACITY CLUSTER DRILL

For the first time in India, AFCONS has worked with multiple agencies to develop a 2000mm diameter rock boring tool with cluster of pneumatic down the hole hammers. This is likely to reduce construction time.



The world's third-largest Hermod barge was mobilised to achieve off-shore installation of the ICP-R Process Platform at the shortest time



## PROFILE | AJIT PENKAR

## This loyalist soldiers on

**A**jit Penkar is one who is wise and passionate about what he does. He epitomises the old school and is a testament to the work ethic the company has instilled in him in the early days. He joined AFCONS (then Rodio Hazarat & Co) as a bore master in charge of all types of piling works. Today, Penkar enjoys the role of chief construction manager at Dahej Stand-by jetty for Petronet LNG Ltd. His yeomen's service since 1982, a staggering 31 years, is a stuff of dreams in this age of changing loyalties and shifting priorities. Penkar is a thorough team player and his wide spectrum of work has transformed him into one of the key figures within the organisation. Few can match Penkar's skill and gravitas at workplace. According to him, innovation is a key to progress and his fascination with instruments makes him a

valuable member in any project. "For me innovation means creating elegant solutions to complex problems. I like working in complicated, challenging, and target-oriented jobs. I like to study and operate all kinds of construction equipments," says Penkar. His hands-on approach springs from his good work ethics and willingness to be a dedicated team player. Penkar loves to play cricket and it is his sporting nature that makes him even more endearing. "I like playing cricket. I love the game because in cricket team work is very important. A team cannot win on the back of a single player," he says. Penkar's career with AFCONS started with the TATA Trombay unit 5, Mumbai, in 1982. He has since then undertaken several challenging projects like the fishing harbour dry-dock in Visakhapatnam where the 100% dry-dock was constructed

### PERSONAL AGENDA

**Birthday**  
16/05/1962

**Place of Birth**  
Bhivandi,  
Maharashtra

**Favourite Music**  
Indian Classical  
Music

**Favourite actor/  
actress**  
Nana Patekar,  
Madhubala

**Favourite colour**  
White

**Favourite food**  
Pure vegetarian  
food

**Best moment  
in life**  
Birth of my  
daughter

**Favourite movie**  
Mother India

by underwater concrete block placing with floating gate. He was also a member of the AFCONS team that worked on diversion of river Hooghly (Nayachar Island) in West Bengal in 1989. It was the company's first river diversion project in India. "I have done major jobs in the marine field. I have been hugely motivated by Mr Hans Kelm from Germany under whose guidance my professional approach to work has sharpened," reveals Penkar. Managing Director Mr K Subrahmanian described Penkar as a very resourceful person. "Ajit Penkar is one of the most resourceful persons I have come across in Afcons. He is hard working, innovative and can come with solutions for any challenges or problems. Naturally, he is one of the most sought after Chief Construction Managers," Mr Subrahmanian said.

## SHARING EXPERIENCE WITH STUDENTS FROM SCHOOL OF INSPIRED LEADERSHIP

### SOIL thrilled by GNOSIS initiative

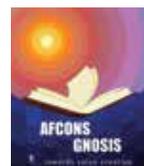
**A**FCONS' Knowledge Management (KM) endeavours earned its first real appreciation outside the organisation when the GNOSIS team was invited to share their concept at the School of Inspired Leadership (SOIL) at Gurgaon.

SOIL is a business school providing holistic education to create inspired leaders by enabling people to know who they are and helping them realise their purpose and full potential.

The request to conduct a session on KM at SOIL was put forth by Nawshir D Khurody, who is Director at AFCONS & also a board member at SOIL. The GNOSIS team, led by Sandeep Desai and KM team leader Deepak Gaikwad and co-ordinator Vishal Thakre,

conducted the session.

The KM team reached SOIL on the morning of June 8 to experience how the students begin their day. The day began with knowledge sharing in the form of Morning Circle in which they



offered prayers from different faiths, shared insights, appreciated each other & tracked what is happening within & outside SOIL.

The next few hours witnessed an engaging presentation by the AFCONS' KM team which gradually turned into an interactive session.

It was a learning curve as much for the students as for the KM speakers.

The AFCONS' KM team was highly



**SHOWING THE WAY:** Afcons KM team leader Deepak Gaikwad during the interactive session

appreciated for their efforts and the magnanimity extended towards making a lively and informative presentation.

## CSR

AFCONS has always shown its commitment to support and adopt Corporate Social Responsibility (CSR). The company has quietly and sincerely worked and supported a lot of development initiatives across project sites. Here's AFCONS' CSR activities at the Chennai Metro Rail Limited (CMRL) site:

➔ AFCONS, with joint venture partner Transtunnelstroy (TTA-JV), has planted over 7000 saplings in various parts of Chennai. The mission is to plant 12 saplings for each tree axed in project area.



Saplings at Puzhal Jail

➔ The people of Ayanambakkam village and the headmaster of the Govt Higher Secondary School, Ayanambakkam, had requested to fill up and level a pond that hindered school activities during rainy season. The request was forwarded to CMRL.

As soon as it got the mayor's recommendation, TTA-JV took up the work.

➔ The principal of Govt Siddha College, Anna Nagar, had requested to fill up and level the backyard of their building for development of college premises. The TTA-JV completed the work in May this year.

➔ There was a request from the Thiruverkadu municipal chairman and villagers to refurbish the village road. The TTA-JV willingly undertook the activity from the site casting yard to the nearby town which is approximately 300 metres away.

➔ Charity begins at home. The proverb became a moment of truth when a welfare committee was formed in 2011 to assist people at site (4383) in their need. It started with a voluntary monthly contribution of ₹ 100 from each employee to be used in case of any emergency. Till date, the committee has provided financial assistance to, at least, seven employees with amounts ranging from ₹ 5,000 to ₹ 13,000 varying according to the nature of the exigency.

## AFCONS VOLUNTEERS IN ASHRAMSHALA PROJECT

AFCONS has volunteered to be a part of the Ashramshala project at Padsare, Raighad, which is a tribal school adoption by the SP group. The company is helping support the children's education, health and nutrition component. An amount in excess of ₹ 4 lakh has already been disbursed for the first quarter towards an annual budget of ₹ 13.50 lakh for supporting 320 children studying and staying at the school.

## NEWS



**MAY 11, 2013:** The Assam Pipeline project was inaugurated by Sudhir Vasudeva, CMD of ONGC on May 11. AFCONS' Oil & Gas director, PK Johri, and Mrs Krishnakumari were present along with the entire site team during the inauguration.

**JUNE 07:** AFCONS Gnosis KM Portal was inaugurated at PWD - 3564 Barapullah Project site on this day.



**JUNE 13:** The Practice Sharing Forum is an event organised by Shapoorji Pallonji where representatives from all group companies share their experience and best practices. The theme this year was Finance & IT. Sandeep Desai and **Gunjan Goel** from IT showcased various solutions, including latest interactive Dashboards from SAP implemented at AFCONS. Ramesh Jha from Finance with Ashok Darak gave a presentation on the company's best practices as well.

## KEY NEW INDUCTIONS



**CP Ramesh** has joined us as VP-Projects w.e.f. June 19, 2013 for Hydro and Special Projects. He has over 32 years experience.



**Sandeep Dash Mohapatra** has joined as Jt. General Manager - BD and Tendering w.e.f. May 20, 2013. He has 22 years' experience.



**John Oliver Downes** has joined as Chief Engineer w.e.f. May 24, 2013 for the Chenab Railway Bridge project. He has 25 years' experience.



**Puny Praya Boni** has joined as General Manager - Projects w.e.f. May 13, 2013. He has 26 years of experience.



**Mr KM Rao** has joined as Vice President - Projects w.e.f. May 13, 2013. He has a vast experience of 30 years.

**HR CORNER**


Personal Motivation &amp; Interpersonal Skills session @ Delhi

**COMMUNICATION SKILLS AT HO**

A training programme on communication skills was organised for employees of Design and CPMG departments. It was conducted in two modules (verbal and written communication) of one day each on June 1 and 22 respectively. The training was facilitated by Pradeep Khanapure. The objective was to enhance the communication skills of participants, practice more practical illustrations and examples relating to day-to-day communication.

**PROBLEM SOLVING AND DECISION MAKING**

To help improve their individual

efficiency, a workshop on problem solving and decision making was organised for people at Delhi, Dahej and OPAL Dahej site. The objective was to focus on improving decision making and problem solving abilities of the participants.

Key Topics covered in the training were:

- Understanding the problem-solving loop
- Importance of communication

The workshop at Dahej and OPAL was facilitated by Nimesh Rawal and Pooja Sheth from Naman Integrated Solutions Pvt. Ltd, while the workshop at Delhi sites was facilitated by Mukesh Khetarpal, faculty from Indus Management Consultants.

**PERSONAL MOTIVATION & INTERPERSONAL SKILLS**

To experience attitudinal advancement and practice effective ways of handling self motivation and motivating other members of the team, a one-day training on personal motivation & interpersonal skills was organised at Delhi sites. Amarjit Singh, faculty from Indus Management conducted the training.

**PROJECT MANAGEMENT**

Eighteen employees (II Batch) who underwent the Project Management Certification participated in the Infrastructure Project Management Workshop which was scheduled at corporate office from May 30-31, 2013. An action plan was designed at the end of the workshop which was conducted by Adesh Jain, president, PMS New Delhi.

**SURVEY TRAINING**

To enhance skills of execution engineers, an initiative was taken to train them on operational procedures of handling survey equipment. The training was conducted at Chennai Metro, Dahej and OPAL site.

**HSE**

**World Environment Day**

The World Environment Day was celebrated at Head Office (HO) and at sites on June 5. Innovative posters were designed to impress upon people the importance of environment protection. Plantation programmes were organised at various sites. At HO, the day was celebrated with a quiz and the screening of a documentary.


**Earth Day**

The Earth Day is an annual event celebrated worldwide on April 22 to demonstrate support for environmental protection. It was first celebrated in 1970 and is now followed in more than 192 countries every year. The 43rd Earth day was celebrated at the CMRL site with a function at Shenoy Nagar station.

**World Hypertension Day**

The World Hypertension Day was observed at RVNL site, Kolkata, on May 28. The theme this year was Healthy Heart Beat - Healthy Blood Pressure. The workforce was educated about the bad effects of hypertension and ways to avoid or reduce the same was discussed in the forum.

**World Safety Day**

The World Safety Day was celebrated on April 28 by the entire team of Mina Salman Interchange project, Bahrain. Safety awards and external training certificates were distributed in a function attended by site staff and representatives from client and consultant.

**Fire Service Day**

Fourteenth April is observed as Fire Service Day every year in India to pay homage to those fire-fighters who sacrificed their lives in line of duty. AFCONS observed the Day by organising a fire drill awareness programme and training activities at KMRC site on April 9, 2013.



**KICK OFF:** Works Minister Essam bin Abdullah Khalaf inaugurates the Mina Salman flyover, on July 5, in Bahrain. This is the first phase of the BD24 million Mina Salman Interchange project, one of Bahrain's largest infrastructure schemes. The event was attended by all ministry departments and consultants.



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