

## MARVEL EXPRESSWAY

AFCONS zipped through the Agra-Lucknow Expressway project, finishing it a year ahead of schedule



**AFCONS** Infrastructure Limited has been named one of the winners of the Asian Most Admired Knowledge Enterprise (MAKE) Award Winner 2016. The company was recognised for transforming enterprise knowledge into shareholder / stakeholder value. This is the first MAKE Award for AFCONS.



**AFCONS'** Jammu-Udhampur Highway Project was awarded the Construction Times Award for the Best Executed Highway Project of the Year. The award was received by Mr R. Anantakumar, Executive Vice President, on December 12, 2016, in Gurgaon.

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**EDITORIAL**

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## 'Proud of our efforts'



The Agra-Lucknow Expressway Project was inaugurated on last November, and I am immensely pleased that, once again, we have delivered a challenging project ahead of schedule. A greenfield project, the Expressway is one-of-a-kind in terms of magnitude and impact. Once the whole stretch is operational, it will boost the agrarian economy and small industries in the remote villages in Uttar Pradesh, providing direct access to bigger markets.

We crossed several milestones in our journey to deliver the 36-month project, comprising Packages II & IV, in 24 months. The Expressway project saw several engineering innovations, and one of the remarkable ones has been the use of an indigenously designed and built launcher.

One of the biggest challenges was building the Ganga Bridge. The perennial river had to be diverted to make way for the bridge. Due to the unusually heavy monsoon this year, plans had to be altered in order to meet the deadline. Our efforts bore fruits and the superstructure of the bridge was made ready in 18 months.

We should take pride in being part of projects of national interest such as the Agra-Lucknow Expressway and strive to make bigger contributions to our country's progress in times to come.

I congratulate the entire team of Agra-Lucknow Expressway for achieving this outstanding feat and making us proud.

K Subrahmanian





## Cover Story

AFCONS executed 126 kms of the 302-km-long Agra-Lucknow Expressway



Relentless efforts led to AFCONS finishing the project in 33 per cent less time



AFCONS raised the superstructure of Ganga Bridge in 18 months

# ROAD TO PROGRESS

**AFCONS-executed Agra-Lucknow Expressway connects the heartland of Uttar Pradesh with key business centres in northern India**

**F**ighter jets landing on an Expressway is a feat in itself. On November 21, 2016, the whole nation watched as eight of those touched down and whizzed past the newly-constructed Agra-Lucknow Expressway. This feat marked the opening ceremony of India's longest access-controlled expressway, one of AFCONS' many landmark projects.

Executing 126 kms of the 302-km six-lane expressway, AFCONS worked in EPC capacity on two packages, viz. Firozabad to Etawah (Package II) and Kannauj to Unnao (Package IV), making up almost 42 per cent of the total length of Uttar Pradesh Expressways Industrial Development

Authority's (UPEIDA) ambitious greenfield project. One of the most anticipated infrastructure projects in recent times, Agra-Lucknow Expressway will cut down travel time between Agra and Lucknow from six hours to three-and-a-half hours.

### Ahead of schedule

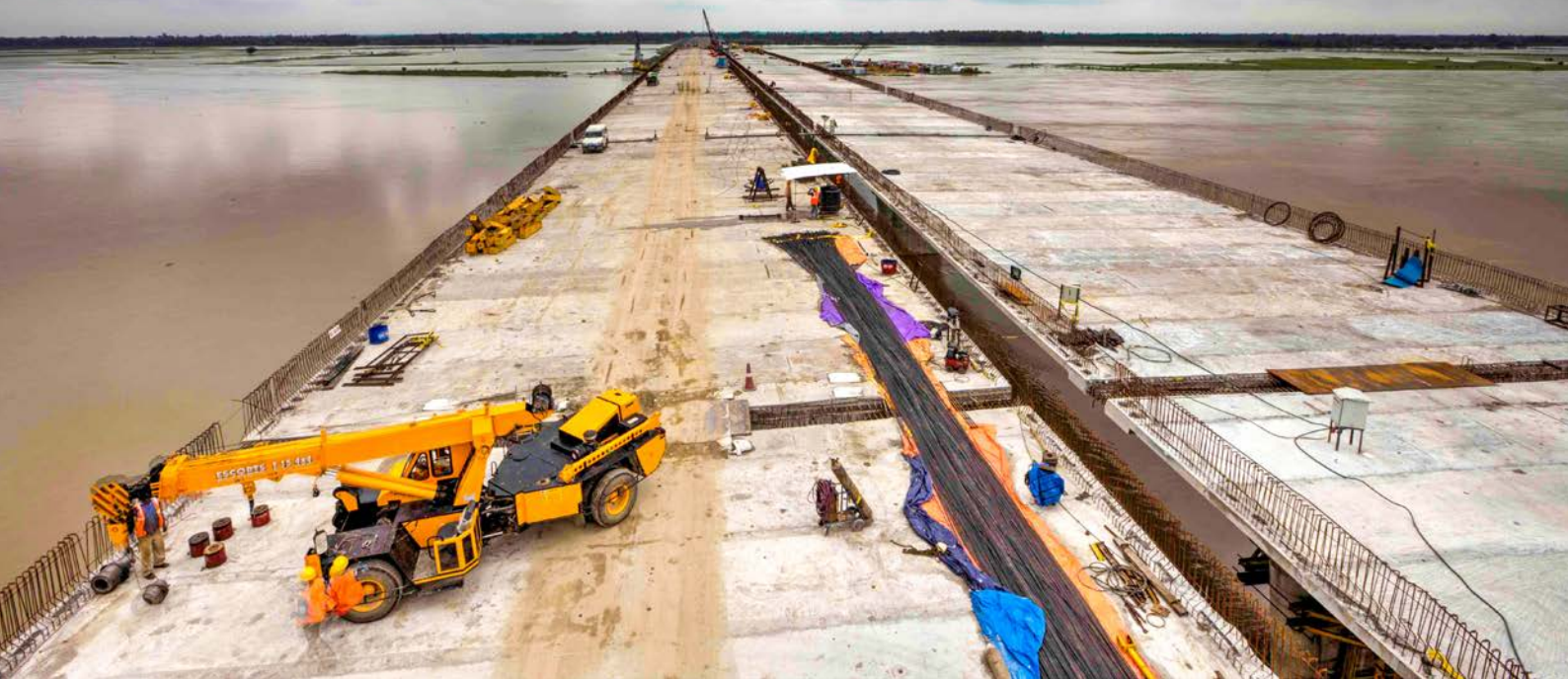
Maintaining the impeccable track record of finishing projects ahead of schedule, AFCONS completed this project ahead of time. The project's scheduled completion period as per the contract was three years. However, keeping in view the aspirations of client, project was ready more than a year before time. The biggest challenges while



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Pedestrian underpasses built by AFCONS





executing the project were large-scale mobilisation of resources and their effective management. One of the biggest challenges was completing large bridges across major rivers, such as Ganges, in a span of 18 months, including two monsoons. Reduction in scheduled completion date of the project meant the project activities were left with little float or sometimes even no float at all. Therefore the construction of bridges continued even as heavy rains lashed the area and the rivers got flooded. Highly-motivated team worked day and night to achieve the completion of Major structures well within the advanced completion

period of 24 months. Also, after the work began, there was a considerable change in plans. The structures were originally planned for six lanes, but the configuration of structures was changed to eight lanes. Despite

the changes being implemented, hardly any time was lost. The main carriageway along the entire contracted length was ready in record time, and so was the structural work at all the major and minor bridges. Another challenge of the project was the sheer number of structures it comprises. Rail Over Bridges, Flyovers, Vehicular Underpasses, Pedestrian Underpasses, Major

and Minor Bridges had to be built along stretches of virgin land to complete the stretch of the Expressway.

#### One of a kind

Agra-Lucknow Expressway is a glowing example of the use of cutting-edge technology. The project saw several innovations in terms of technology and planning on its road to completion. PERI formwork, tailor-made to suit the requirements of typical structures, was implemented in this project, which helped expedite the work. In order to expedite construction of Box Structures, Box Culverts were constructed using Precast Technology. In addition, slabs of all large Box Structures up to 12m span were executed using Precast panels. Remarkable progress was also the result of proactive approach, with quick turnaround time for design approvals, etc. and highly-effective supply chain management.

#### The Ganga Bridge

The 750m-long, 8-lane Bridge on Ganges involved construction of 32 Well Foundations, equal number of substructure in form of Pier / Abutment and superstructure in Precast Box Segments. Four hundred and fifty Precast Box Segments, each weighing about 70-90MT, were cast in a fully Automated Precast Yard setup along the Project Alignment.

In order to compress completion schedule of this Major Bridge to 18 months, AFCONS used two different types of superstructure and three different methods of superstructure erection on the same bridge. Thus out of 30 spans, 25 spans were constructed with Precast Concrete Box Segments and five spans in structural steel with composite Deck Slabs.

As far as erection

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Rail over  
bridges  
built by  
AFCONS







8	29	23	6
Flyovers built by AFCONS	Minor bridges built by AFCONS	Vehicular underpasses built by AFCONS	Major bridges built by AFCONS

is concerned, 15 spans were launched with Launching Girder, 10 spans with Ground Support System and five spans of Structural Steel with high-capacity cranes. This is the case of high level technical improvisations to achieve extremely compressed target of 18 months for completing such a large bridge on Ganges – perhaps a first of its kind.

The 2400MT capacity Launching Girder was indigenously designed to handle 1450MT weight of Precast Box Segments of each span of 50m. It is to the credit of team spirit at the site that they could achieve cycle time of just 3.1 days for launching one span of 50m on this Bridge.

## Eye on development

Besides strengthening connectively of Lucknow, the capital of Uttar Pradesh, with National Capital, another tangible benefit of Expressway will be the transformation of regionally important cities such as Mainpuri, Etawah and Unnao among many others into robust industrial centres to bolster economic growth in the State. The Expressway will also help decongest some of the important National Highways such as NH-2, NH-91 and decrease

commute time between several cities in the region.

With the development of 'vishishth mandi sthal' (specialised market places) and other agro-processing centres in the vicinity of the expressway, agriculture, horticulture and dairy industries will also receive a boost.

On the national scale, the expressway will also help attract investments into the region by assuring unhindered transport of business goods. By reducing the travel time between cities, the expressway also contributes to reduction of carbon footprint and pollution. A project of this magnitude changes the face of areas surrounding it in more ways than one. Apart from changing the landscape, it also opens up several avenues for development and progress. AFCONS has made maximum utilisation of local labour to stimulate economic growth around the expressway by providing gainful employment to locals. The company's development efforts have been praised by the local population and the response in terms of co-operation with the highway execution team has been positive.

Agra-Lucknow Expressway ushers in a new era not just for the region, but for the country. The success of a project of this magnitude gives the confidence and hope to the infrastructure sector as a whole to take a step beyond the obvious, and make a mark in the progress of the country.

## BIG REWARD

Agra-Lucknow Expressway, Package II won the "Gold Award" in Occupational Health and Safety in 15th Annual Greentech Safety Award 2016.



## NEW PROJECTS

● AFCONS has been engaged by Nagpur Metro Rail Corporation Ltd to design and construct viaducts in Reach-3 between Jhansi Rani Square and Lokmanya Nagar stations on the East-West Corridor of the Nagpur Metro Project.

● The Government of India has awarded AFCONS the task of replacing the superstructure of the existing 5.575-km-long four-lane MG Setu over Ganga River in Patna.

● AFCONS has been awarded shore protection works for reclamation boundary of GSEZ Mineral Port at Libreville, Gabon, by GSEZ Mineral Port S.A.

## NEW JOINEES

### Mr Arunkumar U Mishra:

Mr Arun Kumar U Mishra has joined as Vice President – Projects with effect from November 4, 2016. He has the experience of over 34 years and has worked with Maker Developers Ltd, Cemindia Co Ltd, Birla GTM Ltd, Skanska Cementation Ltd, Nagarjuna Construction Ltd, Hindustan Construction Ltd and AFCONS Infrastructure Ltd. His last assignment was with Gammon India Ltd as Project Director.

### Mr Sunil S Basarkar:

Mr Sunil S Basarkar has joined as General Manager with effect from October 4, 2016. He has an experience of over 29 years and has worked with companies like B.G. Shirke & Company, Consulting Engineering Services India Pvt. Ltd. His last assignment was with ITD Cementation India Pvt. Ltd. as General Manager.

## News

### NOTE-WORTHY MOVE

AFCONS came forward to support the employees after the Central Government's move on November 8, 2016, to withdraw from circulation all old notes of Rs500 and Rs1,000. As part of this initiative, the finance department, with support from the salary department, arranged with ICICI Bank to help exchange old notes with new ones at the HO on November 17 and 18, 2016. The employees were asked to fill up a declaration form and present a valid identity proof. Each person was allowed to exchange as per RBI guidelines. Around 250 employees of HO and Oil & Gas BU benefitted from this move.



The finance department organised this initiative with support from the salary department

### Afconian shines at HR summit

Mr Ashish Chaurasia (Senior Manager - HR) was invited for HR Summit 2016 at JK Lakshmipat University, Jaipur, to represent AFCONS on October 21, 2016. Attended by eminent HR leaders and students the theme for the panel discussion was 'Benchmarking for Industry Expectation' and strategies for 'Aligning Competencies of Emerging Human Capital with Make In India'. Mr Ashish Chaurasia presented AFCONS as an employer of choice among

students and highlighted the strengths and milestones of the company as well as the SP Group.

### International award for U. Senthilnathan

Dr. U Senthilnathan (Senior Engineer - HSE, Oil & Gas BU) received the International Green Apple Award 2016 at the House of Commons, Palace of Westminster in London, on November 11, 2016. He won the award for his research project - Removal of lead from aqueous solution using hybrid eucalyptus wood based activated

carbon-adsorption batch studies - in the category environmental best practice.

### HSE award for Amit Ninawe

Mr. Amit Ninawe (senior engineer - HSE - CSB Nagpur) has received Bravery Award (Bronze) - 2016, at OSH India Conference held in Vashi on November 10, 2016. The aim of the award is to recognise individuals, who have acted bravely and adhered to safety standards to protect, help, save their co-workers and organisations at times of crises.

## HR Corner

### Management Development Program

#### Junior Management Development Program:

The first phase of Junior Management Development Program (JMDP) for the eighth batch (2016-17) was held at the HO in September. The programme is a blend of technical and soft skills modules designed to enhance the technical and behavioural competencies of the participants.

#### Mechanical Trainings

**CPE Engineers & Managers Development Program:** CPE Engineers & Manag-

ers Development Program (Batch-I) was organised at the HO in August with the aim of aiding our CPE-Mech engineers and managers with tools, techniques and skills to improve productivity of various equipment against the specified norms and also enable them to lead and develop a high performance delivery team catering to the stakeholders effectively.

#### Electrical Training

#### Electrical Equipment Installation and Commissioning:

A training programme on installation and commissioning of electrical equipment was organised at CMRL. The

programme was conducted by Mr. Bhupinder Singh and Mr. Niloy Mukhopadhyay and attended by nominated employees of all the CMRL sites (4383 / 4384 / 4393). The objective of the training was to ensure understanding on electrical installation and commissioning of different types of equipment and plants at the sites.

#### General Management Training

**Advance MS Excel:** A training programme on Advanced MS Excel was conducted by Ms. Varsha Naramdeo (external faculty) at the Head Office in August. The



## Festive Spirit



Mr K Subrahmanian and Mr S Paramasivan perform aarti during the Dussehra pooja at AFCONS HO



Utsav 2016, the cultural event during Navratri at the HO, received an overwhelming response



Ramleela celebrations at the Agra-Lucknow Expressway project site



Colours Day celebrations at AFCONS HO

programme was attended by the employees from the Head Office and Oil & Gas BU. It was aimed at sharpening the MS Excel skills of the participants by providing deep insights on various tools of Excel including conditional formatting, data validation and VLOOKUP, Mail Merge among others.

### Trainees Induction

**CLIMB UP:** A GTE development programme, CLIMB UP, was launched on July 11, 2016 at the Head Office. Thirty six graduate trainees from the civil engineering discipline were part of this programme. The trainees selected will undergo an extensive training of 45 weeks,

which will include on-the-job and classroom trainings. During their first month at AFCONS HO, the trainees have undergone one week of HR Induction program and three weeks of functional classroom training.

**Functional Training:** Induction programmes for trainees in functions – CPE-Mech, CPE-Elec, HSE and store & procurement were organised at the Butibori workshop (CPE) and at AFCONS HO (HSE and store & procurement) in July and August. The programmes aimed at providing the trainees with detailed understanding of the company, its policies and basic functioning of the departments.

### Soft Skills Trainings

**Business Writing Skills:** A two-day workshop on Business Writing Skills was conducted by Mr. Vincent D'Silva (external faculty) at AFCONS HO and attended by around 20 employees from various departments and BUs. The objective of the workshop was to enhance the participants' writing skills and help put together simple and persuasive documents.

**First-time Managers Training Program (Batch-I):** The first batch of First-time Managers Training Program was held by Mr. Sachin Karve at the Head Office on October 24 and 25, 2016. The programme was de-

signed for employees who have been promoted to the managerial rank. It aimed at sensitising the participants on the expectations and challenges faced by first-time managers.

### Whole Wellness

**Financial Awareness:** A session on financial awareness was organised for the employees of the Head Office on Sep 9, 2016. A total of 21 employees of the HO attended the session, where team of experts from ICICI Securities Ltd. sensitised the participants on how investing sensibly can help secure a better future and informed about various investment options.



## And the GNOSIS Best Project Award goes to Chenab Bridge!

The Chenab Bridge Project has won the GNOSIS Best Project Trophy for 2015-16. The trophy was handed over to the Project Manager, Mr SM Viswamurthy, by VCMD K Subhrahmanian, during the quarterly review meeting (QRM) held in October 2016.

The GNOSIS Best Project Trophy is awarded to projects based on their contribution to GNOSIS Knowledge Management (KM) platform and participation of users in knowledge sharing activities. The contest commences on Engineers Day every

year and runs for 12 months.

The Chenab Bridge Project contributed lessons learned, innovations and process videos consistently. The users also contributed through 'Something to Share' from time to time. In spite of the harsh terrain and vagaries of the weather, the Chenab team did not waver in their efforts to contribute their learnings, making them the obvious choice for the award this year. They were ably supported by their KM Ambassador, Mr Surajit Chaudhary.



Project Manager Mr SM Viswamurthy receives the award from VCMD K Subhrahmanian

### The top three

Site	Points
2612-Chenab Site	4,350
4545-Lucknow Agra Road Project, Pack-IV	3,700
2274-Jamnagar Site	3,425

A cable crane, one of the world's largest, has been installed to build the Chenab Rail Bridge. The bridge, once ready, will be the world's highest arch railway bridge – standing 359m (1,178ft) above the riverbed. It will be 1,315m long, with an arch span of 469m

The Afcons logo, featuring the word 'AFCONS' in a bold, red, sans-serif font with a white outline, set against a dark background.

### A L E R T S

→ Afcons now has a dedicated Youtube channel. Scan the code to visit the channel and stay tuned with the latest videos

