

# INSIGHT

## TRIUMPH BY DESIGN

‘Our philosophy is to deliver superior solutions that are frugal on resources, high on buildability, and, yet provide enhanced value to customer’

PG 3-4

The Nagpur Metro Project





# We're designed for brilliance

While a lot is written and spoken about our landmark projects, what we rarely mention about are the people in our design team who are making this possible with their bright ideas in Afcons. This edition is an ode to their quiet brilliance.

True to our nature, we are marching steadily in our latest Metro project at Nagpur, thanks to the untiring efforts of the team. Afcons is executing a Double Decker Flyover cum Rail Viaduct for the first time, and it has been designed in-house to negotiate a radius of up to 200m. Our exemplary efforts have landed us the additional charge of building double-decker spans for Reach 1 of the Nagpur Metro Project.

A major highlight of this quarter are the several awards we have clinched across verticals. While Agra Lucknow Expressway continues to make us proud, the latest project that has scooped up laurels is the Bharat Mumbai Container Terminals Project in JNPT. I laud the teams and their efforts that gave us these eye-totting projects. We need to keep up this spirit and go on doing what we do best.

**K Subramanian**

## MAKING HEADLINES

### HIMACHAL CM REVIEWS ROHTANG TUNNEL PROGRESS

Himachal Pradesh Chief Minister, Jai Ram Thakur visited the Rohtang Tunnel on July 27, 2018.



He assessed the progress of this engineering marvel, which is set to change the lives of the people of Lahaul-Spiti by providing all-weather connectivity.

During his visit, Mr Thakur also stated that the 8.8-km strategically-important tunnel will be open for vehicular traffic by November 2019. He also emphasised that the tunnel will boost the economy of Lahaul-Spiti district by attracting tourists to the picturesque region. Mr Thakur was accompanied by state agriculture and information technology minister Mr Ram Lal Markanda and senior officials from BRO and Strabag AG-Afcons JV.

### BREAKTHROUGH OF TUNNEL T 49B

The quarter ended on a memorable note for the Afconians at Tunnel T-49B Project in Jammu & Kashmir. The breakthrough of the Main Tunnel (single track) between Kundan and Higni was achieved on July 29, 2018. The team braved precarious geological conditions, inclement weather and a hostile environment to reach this milestone.



### CM OF GUJARAT VISITS AHMEDABAD METRO PROJECT

Honourable Chief Minister of Gujarat, Shri Vijay Rupani, visited Kalupur Metro Station, Ahmedabad Metro Project UG1 Package

(2291) on August 22, 2018. He was accompanied by the Mayor of Ahmedabad, Smt. Bijalben Patel, and, other dignitaries. Project Director, Mr AU Mishra, greeted and welcomed them. MEGA MD, Shri IP Gautam, was also present on the occasion and briefed the dignitaries about the MEGA Project alignment and the progress of the Underground Metro Section UG1. Subsequently, he addressed the media. He said that the Ahmedabad Metro construction is going on in full swing and emphasised the importance of the underground section. He highlighted that Kalupur Station will become a major hub as it will serve as junction point with existing surface railway and upcoming High Speed Rail. The CM also announced that the Phase-I of Ahmedabad Metro, i.e. elevated section, will be operational from January 2019.

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### EDITORIAL

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# TRIUMPH BY DESIGN

**Design issues are a common reason for delay in infra projects across the globe. Avinash Patil, head of design, at Afcons, explains how the company has steadily forged a strong in-house team contributing to mega projects in India and abroad**

**E**verything around us, be it a car or a spoon, has an element of engineering design to it. Engineering design, while being integral to our lives, forms the core of the most challenging and awe-inspiring manmade marvels across the world.

Afcons has an intrinsic construction engineering strength developed over the years. The company has designed and built some of the most marvelous projects in India, and overseas, including the country's first underwater Metro tunnels in Kolkata. Afcons is also constructing the world's tallest single-arch rail bridge in Jammu and Kashmir, and, the company takes pride in contributing to the design of these marvellous structures.

## WELL-ROUNDED TEAM

Typically, in an EPC contract, design and construction act as an integrated system. The EPC contractor carries out detailed engineering design, procures all equipment and plant and

## “THE POSSIBILITIES ARE ENDLESS”

From capturing stakeholder expectations and translating into constructible drawings, to designing for extreme engineering, our design team has become a dependable force to match the ambitions of the organisation.

This ability has evolved over time through challenging EPC projects across segments like ports, bridges, Metro, tunnels etc. Senior designers nurture and groom junior engineers for enhanced delivery standards. Also, the design skills have evolved from conventional approach to using advanced software.

The philosophy is to deliver superior solutions that are frugal on resources, high on buildability, and, yet provide enhanced value to customers.

The quest for design excellence is never ending as every new project brings with it a new challenge. But with the winning attitude and ability displayed by our in-house design team, the possibilities are endless.

**Giridhar Rajagopalan | Executive Director (Technical)**





then delivers the project to the client. Over the years, Afcons has successfully honed its design skills through lateral induction of skill sets and grooming and training of young engineers.

Avinash Patil, head of design, at Afcons, says the expertise of design engineers is spread across all operational areas in Afcons. "Minimum levels of capability are ensured in all operational areas, so that we interact with external consultants more effectively. We have also tied up with several specialists in different areas of expertise to advise us. In addition, several medium-sized niche consultancy firms are empanelled wherever the designs are outsourced," Patil adds.

The skilled team takes pride in developing several programmes for their in-house designs. Apart from this, Afcons has also procured state-of-the-art software to enhance the productivity and quality of the engineering output.

### EFFICIENT EXECUTION

The Afcons design team operates on three primary goals - time, cost and quality. The success of engineering revolves around these attributes, whether it's an outsourced design, or, developed by in-house teams. Each project is assigned an engineering manager to spearhead the design efforts. S/he ensures:

- a.** Timely delivery of approved drawings
- b.** The BOQ is within the approved budget
- c.** Quality of the deliverables

"We encourage our engineers to interact with project sites proactively on a regular basis to achieve their goals. We are also in the process of starting the process popularly known as agile, wherein, the design manager is required to interact daily, with the project team to understand critical item/fresh requirement, which could potentially affect the site progress,"

says Patil, adding, "No wonder, today, Afcons, with a large basket of EPC projects, has become a major player in the sector."

### EDGE OVER OTHERS

At Afcons, construction engineering is entirely carried out with in-house resources. This ensures the designs are unique and in line with the company's resources. "With the current trend of tight timelines and project budgets, there is a need to develop engineering skills with an edge over others. In an EPC project, it is very difficult to segregate design from methods. In fact, the success of many EPC

participate in the workshops held at sites, where extensive interactions take place among all stakeholders. In addition to the initial formal meetings, design managers interact (off and on site) with project teams on regular basis. This helps in minimising abortive work. Also, engineers are nominated to participate in seminars/workshops, publish papers in reputed professional journals, etc. to keep pace with the latest developments in the industry.

"Knowledge sharing lies in Afcons' DNA, and KM sessions are regularly organised and lectures are held by external experts. Further, engineers are encouraged to take up higher studies, such as PhD at reputed institutes, while they continue working with the organisation.

Engineers' Day is celebrated with active participation of our engineers, wherein, contests are held to judge the analytical and practical skills of the participants. They are rewarded in different categories by a panel of experts," adds Patil.

### VALUE ENGINEERING

Value engineering, as an organised approach in identifying unnecessary costs in design and construction, has been a core strength of Afcons design team.

"Some of our recent designing highlights have been designing the double decker LG for Nagpur Metro project and construction scheme for tunnelling (with diaphragm wall to be constructed later) at Ahmedabad Metro project. We are gearing ourselves to hit the \$2 billion turnover, major part of which is expected from EPC contracts. My team is confident of being a major contributor as we strive to learn and innovate daily to take Afcons to the next level," concludes Patil.

## THE AFCONS DESIGN TEAM OPERATES ON 3 GOALS - TIME, COST AND QUALITY

projects depends upon the selection of right method of construction," emphasises Patil.

The design engineers of Afcons are equipped to handle both designs and methods. The designs are not only optimum but also construction friendly to ensure faster and quality construction.

### KNOWLEDGE SHARING

At the commencement of the projects, design engineers



# Das Shanbhag

## Meet the proud Marine Man

**F**or Mr Das Shanbhag, 2018 has been a year of laurels. The man who spearheaded the exemplary Bharat Mumbai Container Terminals Project at JNPT finds himself in a spotlight, with the project bagging several prestigious awards.

Mr Shanbhag has won the runner-up title for Project Manager of the Year at this year's Construction Week Awards. The project has also won the Best Port Project award at the Construction Times Awards in 2018.

"The awards are the result of hard work and dedication of the entire team. To build India's longest jetty and largest cargo terminal in just two years is remarkable," he says. "I am thankful to the top management for their support and to my team for their tenacity. Together, we've made this possible," he adds.

One of the highlights of the BMCT project is the way it has been executed. "We ensured timely mobilisation of resources right from the time we bagged the project. The enthusiasm that the team had on the first day of the project reflected till the last day.

The team members motivated and supported each other to overcome the tough moments," he reminisces.

The ambitious project, which has been appreciated by none other than our Prime Minister Shri Narendra Modi during its inauguration, is a major milestone for Afcons.

Mr Shanbhag says, "The BMCT project is significant for Afcons as we were able to complete a project of national importance in record time. Afconians, who implemented several innovative techniques, have become no less than visionaries with its success."

Boasting about the highlights of the project, he says, "Completion of 1,177 piles with boring in hard rock within 12 months is something the team is very proud of. We completed 200mX61m span of In-Situ Deck in just a month. We're humbled by the fact that we could provide employment and skill development training to locals. And if we see the larger picture, we've contributed towards building better port facilities for the country."

Mr Shanbhag, grew up in



Mr Das Shanbhag receives the runner-up award for Project Manager of the Year at Construction Week Awards 2018

Mavinakurve, Honnavar, Karnataka, says apart from the BMCT project, he holds the Dahej jetty project close to his heart. "It's very tough to pick one project. Every project is an important chapter of my life," he adds. "Also, it's my dream to contribute significantly to Afcons becoming a \$2bn company by 2021-22," he says.

When asked what a busy man like him does in his free time, Mr Shanbhag quips, "Whatever little time is left is spent at social gatherings!"

Mr Das Shanbhag is the Project Manager of the JNPT project

## The journey begins in Mozambique

Afcons began its journey in Mozambique on September 7, 2018, with the ground breaking ceremony of the road rehabilitation project. The President of Mozambique, His Excellency Filipe Jacinto Nyusi, graced the occasion. The Afcons team was led by Mr Akhil Gupta, Executive Director - Operations. The project to rehabilitate two-lane, 131.6-km-long road from Tica to Buzi and Nova Sofala has been awarded to Afcons by the National Roads Administration (ANE), Maputo, Mozambique.



1. His Excellency Filipe Jacinto Nyusi at the groundbreaking ceremony



2. Mr Akhil Gupta, Executive Director – Operations, greets the President of Mozambique, His Excellency Filipe Jacinto Nyusi at the groundbreaking ceremony, in Tica

3. Mr Akhil Gupta interacts with Joao Machatine, Minister of Public Works, Housing & Water Resource, Government of Mozambique and Mr Rudra Gaurav Shresth, Indian High Commissioner to Mozambique

4. His Excellency Filipe Jacinto Nyusi looks at the project map





## ELEVATED ROAD OVER BARAPULLAH NALAH INAUGURATED

Shri Arvind Kejriwal, Chief Minister, Delhi, inaugurated the Elevated Road over Barapullah Nalah (Phase-II), New Delhi on July 28, 2018. The inauguration was done at Afcons' project site (3564) in the presence of site team and other Government officials.

## ALMA MATER HONOURS EVC

Executive Vice Chairman **Mr K Subramanian** was bestowed with the honour of Distinguished Alumni by National Institute of Technology - Tiruchi (NIT-T) on July 28, 2018. Five eminent alumni received the Distinguished Alumni Awards (DAA) at the 14th convocation ceremony for making valuable contributions in building the image of their alma mater.



## BRIDGES AT AL AWIR ROAD PROJECT INAUGURATED

Al Awir Road Project reached an important milestone on July 14, 2018, when bridges 1, 3, and 4 including Zone 7 (Nouakchott street) road and junction were inaugurated. All the senior RTA officers along with Afcons' site management team were present on the occasion.

From Afcons, Mr Mudit Sharma, General Manager Project, Mr Muhammad Naeem, Project Manager, and, Mr Ahmed Omar Yousuf, Construction Manager, along with the site team welcomed all the RTA officials. From RTA, Eng. Hussein Mohammad Al Banna, Director of Traffic and Acting CEO, Mr Nabeel Muhammad Salah, Director of Road, Mr Abdullad Jasim, Director, ROW, and, Mr Abdulla Rahman, Director, Traffic Safety, graced the occasion. RTA team appreciated Afcons team for completing the work within time.

## CONTRACT SIGNED FOR BANGLADESH PROJECT



The contract signing ceremony between Bangladesh Railway and Afcons-KPTL JV for the new rail project in Bangladesh was held on July 24, 2018 at Railbhabhan, Dhaka. Mr Md Mazibul Hoque, MP, Hon'ble Minister, Ministry of Railways, Bangladesh, was the Chief Guest for the ceremony. All the important officials from Afcons and KPTL were also present on the occasion. The project consists of construction of 3rd and 4th Dual gauge track in Dhaka-Tongi section

and Doubling of Dual gauge track in Tongi-Joydebpur section including relevant civil works.

## SUMMER CAMPAIGN AT JOC SITE

The Summer Campaign, organised by Dubai Municipality (DM), was held at the Entrances to the Jewel of the Creek Development project site on August 1, 2018. The event, aimed at spreading awareness among employees on working in hot and humid climatic conditions, is held at several project sites across the city annually. The campaign was led by HSE director of Dubai Municipality and supported by the advisor to the director and number of DM inspectors.



## SAFETY MILESTONE CELEBRATIONS AT KANDLA PORT PROJECT

Construction of 14th and 16th multipurpose cargo berths project at Kandla Port reached a safety milestone by achieving 2 Million Safe Man Hours without LTI. The team celebrated this achievement on August 23, 2018, in an event organised at the site. Mr K Verughese, Chief – Fire & Safety, Deen Dayal Port Trust (DDPT) was the Chief Guest for the event which was also graced by the presence of Mr Lalwani, SDO, DDPT, and, Mr Umesh Dave, JE, DDPT. The site management including Mr Gurudatha Nayak, Project Manager, along with the project team were also present.

## AFCONS MINI – A MEGA STEP!

**"Necessity calls for innovation and innovation leads to progress."**

Afcons has introduced an innovative mobile app (Android) called 'Afcons MINI' (Mechanical Intellectual Network Interface). It is designed and built for our engineers to have the entire information about our equipment base - Technical specs, Maintenance, Fuel & Spare norms, and, Transportation - at the back of their hands.

The multi-fold app will also be beneficial for various processes:

- Tendering team during estimation
- Equipment Planning
- Budget Preparation
- Erection & Commissioning of P&M
- Transportation
- Training & development

## NEW PROJECTS

### NEW MARINE JOB IN BHUTAN

Afcons has been awarded a job of construction of River Training and Embankment works for Phuentsholing Township development Project (PTDP), Bhutan. The project has been assigned by Construction Development Corporation Limited (CDCL).

### EXPRESSWAY PROJECT FOR AFCOS

Afcons has been awarded the Package 2 of the prestigious Nagpur-Mumbai Super Communication Expressway by Maharashtra State Road Development Corporation (MSRDC). Afcons will be constructing the section of the Maharashtra Samruddhi Mahamarg between villages Khadaki Amgaon to Pimplagaon in Wardha district on EPC basis.

### AFCOS SECURES NEW BRIDGE PROJECT IN BIHAR

IRCON International Limited has awarded Afcons the project to design and construct 1.8km long New Double Track BG Railway Bridge over River Ganges near Mokama, Bihar. The company will construct ROBs, RORs, RUBs, Viaducts and Approaches of the project.

### NEW MARINE JOB IN MAURITIUS

Afcons has been awarded the development of infrastructure at AGALEGA Island, Mauritius



**VIEW POINT | Gokul Javalikar**

## 'PROUD TO BE PART OF INDIA'S INLAND WATERWAYS HISTORY'

on NW-1 feasible. The cargo handling capacity of the terminal is estimated to be 1.3 million metric tonnes per year. It has the capacity to anchor two vessels of 2,000 MT capacity each simultaneously, and has allied facilities, including a deposit area, commodity transit shade and parking area, apart from the jetty with a terminal for passenger transport. The terminal will have road as well as rail connectivity.

### A vision for the future

Reviving waterways as a viable means of transport became the need of the hour because of the burden on existing modes of transport in recent times. Apart from this, there was also the need to explore a cost-effective alternative. It is estimated that inland waterways network will reduce cost of logistics in the country by nearly half as compared to other modes of transport. It will free the roads and rail networks to a large extent in times to come.

Infrastructure development of this magnitude will see several multi, and, inter-modal terminals, Roll On and Roll Off (RORO) facilities as well as ferry services.

It also has other major benefits like socio-economic boost in terms of generation of direct and indirect employment to scores of Indians in ports as well as vehicle manufacturing industries.

For Afcons, it is a matter of pride to be part of a historical project that shapes up modern India. After establishing ourselves as leaders in marine and surface transport, we are now a key player in inland waterways.

**Mr Gokul Javalikar is the Director & Business Unit Head (Marine & Industrial Structures) at Afcons**

### FACT FILE

**1,380KM**

Length of stretch between Varanasi and Haldia as part of Jal Marg Vikas(JMV) project on NW-1

**200M**

Length of river jetty at IWT, Varanasi

**1.3MT**

Estimated cargo handling capacity of the terminal

**2**

No of Mobile Harbour Cranes of capacity 60T at 18m reach at the terminal

**2**

No of vessels of 2000 MT each that can be anchored at the jetty

## Civil Training Programme Primavera Training

The first phase of the development programme for Planning & Costing engineers was launched at Afcons HO in September 2018. The first phase of the programme was a 3-day training on Primavera.

## Oil & Gas Training Programme Process Hazard Analysis Training

A two-day training programme on Process Hazard Analysis was organised at Oil & Gas BU on July 20-21, 2018. The training introduced the elements of risk management.

## Whole Wellness Workshop Balancing life and work

A wellness workshop was conducted at Afcons HO on September 10, 2018. The workshop covered the topics of Anger Management, Depression & Burnout, and, Balancing Work and Family life.

## General Management Personnel Officers Development Programme

A two-day Personnel Officers Development Programme was conducted in two batches in August and September at Afcons HO. The objective of the training was focused on practical applications of various labour legislations.

### NEW JOINEES

#### Mr Ajay Bhatnagar,

#### Joint General Manager (Operations)

Mr Bhatnagar has an experience of over 28 years and has worked with companies like Gammon India Ltd., Hindustan Construction Company Ltd. His last assignment was with Simplex Infrastructures Ltd. at the level of General Manager.

#### Mr Ravindra Singh Chauhan, Joint General Manager (Execution), Tunnel T 49B Project, J&K

Mr Chauhan has an experience of over 30 years and has worked with companies like Chawla Techno Construction Ltd., Continental Construction Ltd., SSJV Projects Pvt. Ltd., L&T - AM JV, Hindustan Construction Company Ltd., Patel Engineering Ltd. His last assignment was with Gammon Engineers and Contractors Ltd. at the level of General Manager.

#### Mr Manish Balkrishna Samel, Dy. General Manager (Estimation), Head Office - Special Initiatives

Mr Samel has an experience of over 23 years and has worked with companies like Skanska Cementation India Ltd. His last assignment was with Hindustan Construction Company Ltd. at the level of Dy. General Manager.

#### Mr Vivek Singh, Dy. General Manager (Projects), Road Rehabilitation Project, Sofala Province, Mozambique

Mr Singh has an experience of over 27 years and has worked with companies like Geokon India Pvt. Ltd., International Consultants and Technocrats, Dantala and Sawoe Construction Company, L&T - Ramboll Consulting Engineers Ltd., Oriental Structural Engineers Pvt. Ltd. His last assignment was with Larsen and Toubro Ltd. at the level of Project Manager.

# Festive Fervour



Afconians dressed in festive colours on Navratri



Colour Day is an integral part of Dussehra celebrations at Afcons



A talented bunch of Afconians enthral the audience during the annual Dussehra event



Sports tournaments were held at Lusaka site as part of Dussehra celebrations

## AWARDS



Afcons bagged the runner-up award in Infrastructure Company of the Year category at the Construction Week Awards 2018. The award was received by Mr Sunil Shinde, Director (Special Initiatives). The joy was doubled when Mr Das Shanbhag, Project Manager, BMCT Project, was awarded the runner-up award in Project Manager of the Year category.



The Bharat Mumbai Container Terminals project at JNPT was named Best Executed Port & Harbour Project of the Year at the Construction Times Awards 2018. The award was received by Mr Gokul Javalikar, Director & BU Head (Marine & Industrial), and Mr RM Deshmukh, GM – Contracts.



Afcons won the prestigious Safety, Health & Environment (SHE) Excellence Award 2017-18, for Kolkata Metro Rail (UG1) Project. The award was handed to the Afcons team by the Confederation of Indian Industries (CII), Eastern Region, at an award ceremony held at Kolkata. Mr Virinder Kaul, Project Manager, and Mr Ramakrishna Rao, Head-HSE, led the team at the ceremony.



Afcons was awarded the Rolling Trophy for June 2018 for being a Safety Conscious Contractor at Chennai Metro Project (4397). The award was handed over to the team by Director (Projects) of Chennai Metro Rail Ltd to Mr D Murugadasan, Project Manager.



## ALERTS

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

