

CW

Construction World

Largest Circulated Construction Business Magazine
with editions in India and Gulf

₹200 May 2019 • Vol.21 No.8

www.ConstructionWorld.in

/CWmagazine

/ConstructionWorldmagazine

- Concrete Equipment...74
- Crushing & Screening Equipment...82
- Signature Bridge: India's first asymmetrical cable-stayed bridge...98
- Interviews: Doosan Bobcat, Indore Municipal Corporation...64,66



page...101

COMBATING BRIDGE COLLAPSES

Against the backdrop of recent bridge collapses, completion of long-awaited bridge landmarks and mega launches, CW explores the innovative methods, materials, equipment and quality standards that can add to building healthy connectivity across the country...38



CONTENTS

92

FOCUS

Setting Benchmarks

With a turnover of ₹62.41 billion, an order book of ₹352.11 billion and equipment fleet worth over \$300 million, Afcons Infrastructure continues to make headlines with the MIKE Award.

64

INTERACTION

"We are positive about our backhoe loader."

- **Hyunsoo Kim, Director Commercial, Doosan Bobcat India**, shares more on the company's long-term plans.

CW PROJECT UPDATE

123 Project Update	134 Equipment Update
126 Power Update	135 Cement Update
128 Transport Update	136 Smart Cities Update
132 Real Estate Update	

CWBIZ

138 Upcoming Projects	155 Diary
156 Product Parade	162 Property Rates
158 Contract Awarded	166 Building Material Prices
160 Tenders	172 Newsmakers

CW PROPERTY TODAY ...101

Photo courtesy: Mapletree Investments

102

COVER STORY**Top Deals**

Of private equity investments worth \$4 billion in India's real estate in 2018, the commercial segment has attracted a lion's share of 70 per cent. **CW PROPERTY TODAY** explores property deals that have made it to the top list.

112

FEATURE

Lighting and Switches

Fuelled by technological innovations, smart lights and switches are enhancing productivity and well-being.

120

BIG B

"We are targeting a revenue of ₹6 billion in 2019-20."

- **Madhusudhan G, Chairman and Managing Director, Sumadhura Group**, shares more on the company's plans.

118

SPECIAL PROJECT-GREEN

The Platinum Hit

Ashok Leyland becomes one of India's first offices to bag the LEED v4.1 Platinum certification for its sustainable features.

122

INTERACTION

"We will invest about ₹2.50 billion in our first residential project."

- **K Mukund Raj, CEO-Real Estate, Raymond**, shares more on the company's real-estate plans.

Index...10

Editor's Note...14

Letters...16

News & Events...18

In the CW June 2019 issue, look for:

- Material Handling Equipment • Scaffolding & Formwork
- Warehousing and e-commerce • Adhesives & Sealants



Setting Benchmarks

With a turnover of ₹62.41 billion, an order book of ₹352.11 billion and equipment fleet worth over \$300 million, Afcons Infrastructure continues to make headlines with the MIKE Award.



Here's a company at the vanguard of infrastructure development! Part of India's leading engineering and construction conglomerate Shapoorji Pallonji Group, Afcons Infrastructure (Afcons) has a diverse experience of on-time execution of over 350 infrastructure projects across 22 countries. The company has successfully executed

landmark projects in the areas of rail, metro, highways, bridges, tunnels, ports, industrial projects, hydropower and water works, and oil and gas.

What's more, Afcons

recently won the Most Innovative Knowledge Enterprise (MIKE) award – considered the Oscars in knowledge management – at the Global, Asia and India levels, making it the only infrastructure company in India to have won the coveted award three years in a row. "We are looking at cementing our place in the world of knowledge enterprise," says **K Subramanian, Executive Vice Chairman, Afcons Infrastructure**, adding that the company has one of the most advanced knowledge management processes among infrastructure companies in India. "We have made significant investment in this regard and it has started yielding results." (Read interview with the Chief Knowledge Officer.)

Operational excellence

Over decades, Afcons has constructed several engineering marvels in some of the most hostile geographies, including valleys, through mountains, at terrifying heights, across flooded rivers, over live railway tracks, and even over the sea. "We pride ourselves on successfully executing complex infrastructure projects anywhere in India and abroad," says Subramanian.

Today, with its exciting project portfolio and expansion in newer geographies, its focus will be on innovation and engineering excellence in all its projects. "We will continue to strengthen our existing knowledge management practices," shares Subramanian. "And, in whatever we do, operational excellence will always be our competitive differentiator."

Delivery-focussed culture

Afcons has earned the reputation of being an extreme engineering and construction company, having executed some remarkably challenging projects.

"Executing such complex and technologically challenging projects with client satisfaction have become the 'new normal' for us," says Subramanian.

One key strategy is to take utmost care in selecting the right jobs. Infrastructure projects carry such a high level of risk for the contractor that even one wrong project can undo the good work done by the entire organisation. Thus, Afcons has developed in-house frameworks and processes for selecting or filtering projects. For instance, it has a project selection decision matrix that helps decide which projects to bid for in a particular business unit. It also has a robust risk-assessment process in

"We are looking at augmented reality to enhance the user learning experience."

- Rudolph D'Souza, Chief Knowledge Officer, Afcons Infrastructure



We are in the midst of a knowledge economy. And the key value is being produced not by the physical assets we possess, but by our people and the application of their intellect, remarks Rudolph D'Souza, Chief Knowledge Officer, Afcons Infrastructure, as he shares more on the company's Most Innovative Knowledge Enterprise (MIKE) Award 2018 and more...

How does it feel being the only infrastructure company in India to have won the coveted MIKE award three years in succession?

The MIKE Award 2018 (after two consecutive MAKE Awards in 2016 and 2017) is an indication that Afcons is on track to achieve its vision to be a knowledge enterprise. It is a recognition of the calibre of all Afconians. In an industry notorious for cost and time overruns, Afcons has an avowed intent to execute projects before time, within budget, and with highest customer satisfaction. This is where knowledge sharing from one project to another, from one activity to another, can help reduce time cycles, increase productivity and avoid reinventing the wheel. The MIKE Award, in many ways, recognises that we have made significant progress in this regard.



Afcons is the only infrastructure company in India that has won the coveted MIKE award three years in a row.

FOCUS

What puts Afcons on top of the knowledge management space?

One reason is that the management of Afcons has a clearly-articulated mission to become a 'knowledge enterprise', which is unique in the infrastructure sector. We are evolving from 'excellence in execution' to a 'knowledge enterprise'. The Knowledge Services Group (KSG) is tasked with the responsibility for identifying, codifying, sharing and leveraging the vital knowledge capital produced.

What are the initiatives, processes, strategies and systems that help sustain knowledge management?

Before the commencement of a major activity, learnings from previous projects are shared, methods are discussed and debated. During an activity, learnings are captured on an ongoing basis. They are uploaded on the knowledge management portal. After a major activity or project, learnings are captured and uploaded on the portal for the next project to learn from. This is a robust and proven knowledge management model in Afcons.

Our approach is multidimensional. Our people participate in industry events and forums. We connect with the best available experts and academic institutions globally. We leverage the knowledge of our vendors and suppliers. We send our

people for in-depth training. Our JV partners are an important source for knowledge transfer. Knowledge management processes are built around the 'learn before, learn during and learn after' model.

What is the company's focus on technology to enhance knowledge sharing and creation in the infrastructure space?

People are at the heart of all we do. We, however, acknowledge the significant role that appropriate technology plays in the success of an organisation like ours.

We use SAP for business processes, DMS for document management and a customised knowledge portal called GNOSIS for knowledge management. GNOSIS implies experienced knowledge. The 'learn before, learn during and learn after' model is built around the GNOSIS portal.

There is interactivity wherein a user can ask a question to an 'expert' and receive a direct response. Importantly, the portal has been developed in-house. Globally, there is no other infrastructure company that has developed its knowledge management portal through an in-house team. We are in the process of incorporating emerging technologies like auto suggestion, analytics and AI. We are also looking at augmented reality to enhance user learning experience.

place, which helps identify risks well in advance.

"A delivery-focussed culture is in the DNA of Afcons," adds Subramanian. "And over time, we have developed many unique processes like an operational excellence framework that helps us deliver challenging projects across sectors and geographies."

First-time right!

"Typical of Afcons, we follow the mantra of 'first-time-right'," reveals Subramanian. For instance, the company entered the offshore business with a process platform project for ONGC in 2009. Conventionally, companies enter offshore business with anything other than process platforms – the

ICP-R process platform is probably the only offshore platform in the world to be executed by an entrant into the oil and gas sector in its first attempt!

Similarly, Afcons entered the irrigation sector in 2016. In its first project for the Kaleshwaram Lift Irrigation Scheme (KLIS), it not only created multiple milestones but completed construction of the Annaram Barrage before time with full client satisfaction.

Well equipped

Notably, Afcons is among the few Indian companies to own seven state-of-the-art TBMs and has the highest inventory capability of port-building equipment. It is also unique when it comes to building self-elevating platforms. Moreover, it is building marine equipment to augment its breakwater construction. One of the fleet members will be the largest modular crane barge in the country. As per the latest ENR survey results, Afcons is ranked 10th globally in Marine and Port Facilities.

"A lot of our efficiency is backed by owning strategic equipment and operating at high availability and efficiency," says Subramanian.

Safety and training first

The company has not only worked with many top-notch clients known for safety practices, domestically and internationally, but has delivered incident-free projects. "We have received many international HSE awards and are certified for ISO 45001-2018 (Occupational Health & Safety Management Systems)," says Subramanian. "We are the first such organisation to be certified to OHSMS based on the ISO 45001:2018 standards for the defined scope of certification in the construction or infrastructure industrial sector."

FOCUS



Afcons has executed over 350 infrastructure projects across 22 countries.

Training and development programmes for employees are conducted at all sites and the head office throughout the year. "We are probably the first Indian infrastructure company to implement in-house, technical e-learning solutions," says Subramanian. "Afcons has developed a dedicated knowledge management portal, GNOSIS, in-house." Its significant investment in learning and development is visible from the fact that it has crossed the global training benchmark of four man days per employee per year.

More Accolades

Afcons is the first Indian infrastructure company to be certified as a 'Great Place to Work'. "Our scores are far better than the domestic infrastructure industry benchmark in all parameters because of our people management policies," says K Subramanian, Executive Vice Chairman, Afcons Infrastructure, with pride.

What's more, a recent Engineering News-Record (ENR) survey has also ranked Afcons the 22nd best company globally in bridge construction – a recognition of its ability to execute truly complex bridge projects anywhere in the world. (Read more in the Cover Story on Page xx).

Global strength

Notably, 20-25 per cent of the construction conglomerate's revenue has consistently come from overseas markets over the past few years. "We were one of the few Indian companies to have de-risked ourselves from the Indian market even when there were ample opportunities at home," highlights Subramanian. A consistent CAGR of 20 per cent, in good or bad times, can be called an indicator of growth. Since 2002, Afcons' average order size has increased from less than Rs 500 million to over Rs 10 billion, ie, more than 20x increase.

2019-2020 highlights

The construction giant has always targetted growth in profitability rather than an increase in the topline or order book. "We became a billion-dollar organisation in FY2016-17 and are aiming for a \$2-billion turnover by FY2021-22," avers Subramanian. Afcons will continue to concentrate on several high-value and important projects for nation-building, such as India's first high-speed rail project, the Mumbai-Ahmedabad HSR, river-linking projects, etc.

That said, domestically, the company expects project procurement to remain muted in Q1 FY2020 on account of the general elections, but expects it to pick up momentum afterwards.

Fact Sheet

- **Year of establishment:** 1959
- **Top management:** Shapoor Pallonji Mistry, Chairman; K Subramanian, Executive Vice Chairman; S Paramasivan, Managing Director; Giridhar Rajagopalan, Executive Director (Technical); Akhil Kumar Gupta, Executive Director (Operations).
- **Segments of operations:** Marine and industrial; urban infrastructure; surface transport; hydro and underground; oil and gas.
- **No. of completed projects:** 350+
- **No. of ongoing projects:** 51
- **Construction equipment owned:** Fleet worth over \$300 million
- **Turnover:** ₹62.41 billion (as in December 2018)
- **Order book:** ₹352.11 billion (as in December 2018).

Subramanian points to most industry challenges being related to the external market scenario rather than internal constraints: Aversion by banks to the infrastructure sector, project money due to contractors stuck in arbitration for long periods with government clients. "We are seeing a reversal of trend in the construction sector," says Subramanian. "The ecosystem is again getting increasingly restrictive. Contract conditions are becoming unfavourable and more risks are getting passed on to EPC partners. However, we will engage proactively with the government and industry forums to eliminate the toxic conditions and improve the ecosystem for Afcons and the construction sector at large."

Ahead of the curve, as always!

- SERAPHINA D'SOUZA

CW |

To share your views, write in at feedback@ConstructionWorld.in