

INSIGHT

AFCONS

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Shapoorji Pallonji



GOLDEN MOMENTS

**Completion of
Chenab Railway
Bridge deck with a
“Golden Joint”
and inauguration of
Ahmedabad Metro
Phase-1 by
honourable PM
Shri Narendra Modi**

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OBITUARY

Cyrus Pallonji Mistry 1968-2022

Most of us who knew our beloved ex-chairman Mr Cyrus Mistry, including leaders of Corporate India, top ministers, and bureaucrats, are still probably trying to get to grips with the fact that CPM, as he was fondly known, is no more. His unfortunate and untimely demise has not only stunned the world but has also left a huge void, and bereft India of a visionary whose sharp business acumen sometimes proved ahead of his time.

The low-profile scion of the Shapoorji Pallonji Group was affable, modest, and an outright down-to-earth leader. A father figure to Afcons, he not only led the company's turnaround since the time Shapoorji Pallonji took over in the year 2000, but also laid the foundation of a unique culture and value system that Afcons is known for today.

CPM showed us the "Afcons Way", and we followed it.

At the Group level his contribution was equally immense. His entrepreneurial mindset helped the Shapoorji Pallonji Group to achieve many milestones over the past two decades. With his vision and eye for detail, he was instrumental in steering the Group to become one of India's most dependable, valued, and diversified business conglomerates.

We pray the Almighty for his soul to rest in peace.

All of us at Afcons extend our deepest condolences to the Mistry family.



FROM EVC'S DESK

Cyrus continues to be with us

Dear Afconians,

It was an extremely sad moment of my life. When the news of Cyrus reached me, I literally went numb. Within months of losing our Group patriarch, who would have imagined, even wildly, that we would have to deal with another body blow. But fate can be cruel, and life can be unfair. So, it seems...

Cyrus shaped the culture and value system of Afcons and worked on its turnaround. His strategic vision and incisive thinking paved a consistent growth path for the organisation. Like two drops of water, Cyrus and Afcons are inseparable. As a true respect to him, and since we owe to him a legacy of trust, ethics, and integrity, we should try to imbibe his qualities and rededicate ourselves to the cause of Afcons.

Few things that we could lean on for comfort in the last quarter were the

completion of the overarch deck of the Chenab Railway Bridge (with a Golden Joint), and the inauguration of Ahmedabad Metro Phase-1 by Honourable Prime Minister Shri Narendra Modi. Some of our projects

received awards and recognition, including a felicitation by Engineering News Records (ENR) for consistently featuring among Top 250 International Contractors.

Take care of yourself and your families. And best wishes for the festive season.



K SUBRAMANIAN

MAKING HEADLINES

Honorary Doctorate for EVC

Executive Vice Chairman Mr K Subramanian was conferred with D.Litt. (Honoris Causa) at the 18th annual convocation of Kalinga Institute of Industrial Technology (KIIT) in October. The honorary doctorate recognises his contribution to Construction Industry and Corporate Leadership. Honourable Chief Minister of Odisha, Shri Naveen Patnaik, awarded the degree to Mr K Subramanian.

Nagpur Metro in record books

Asia Book of Records and India Book of Records have recognised Nagpur Metro for building the longest double-decker viaduct (5.3km) in Asia, that includes an elevated highway, and Metro Rail viaduct supported on a single-column pier. The double-decker viaduct also comprises India's first four-level transportation corridor.

EDITORIAL

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We have faced numerous trials and tribulations with this exceptionally challenging project. Despite the hardships, all our engineers and workers who have persisted with this project must be delighted with the outcome today. This is a remarkable milestone that brings us very close to the total completion of this iconic bridge. Congratulations and best wishes to every engineer and worker who have worked on this project

K Subramanian
Executive Vice Chairman



The Chenab Railway Bridge is right at the top of infrastructure projects in India, and it will be cherished as a landmark in the history of modern engineering. Afcons has a history of constructing complex projects and the Chenab Bridge is symbolic of India's extreme engineering prowess

S Paramasivan
Managing Director



We can all say with pride that this iconic bridge is now on the verge of completion and in true *Aatmanirbhar* spirit. I believe we have demonstrated to the world our full capacity of engineering. The "Golden Joint" proves the quality and precision of the work done by Afconians in a safe and secured manner. We are also proud to achieve 10 Million Safe Man Hours in the project so far

Giridhar Rajagopalan
Deputy Managing Director



DECK(S) CLEARED FOR RAILWAY TRACK

The Chenab Bridge deck has been completed with a "Golden Joint" and is now being prepared for laying of railway track, writes Bivabasu Kumar

Often compared to the famous Eiffel Tower in France, India's Chenab Railway Bridge, which is 35 metres higher than the La Tour Eiffel, has become a prominent symbol of technological and engineering modernity. Towering over the Chenab River valley in the hostile terrains of Jammu and Kashmir, the Chenab Bridge is a reflection of a

modern, progressive, and optimistic India powered by complex and flawless engineering. It is going to be the highest single-arch railway bridge in the world.

After the mammoth arch was completed last year, the next and immediate target was the completion of the overarch deck. The milestone was finally reached on August 13, 2022. A "Golden Joint" was achieved by joining the deck over the arch which was



WHAT IS A GOLDEN JOINT?

A Golden Joint is the last joint of the bridge deck connecting both sides to form one continuous deck

launched using incremental launching technique from both Bakkal and Kauri side of the bridge.

The Chenab Railway Bridge is 1,315 metres long. It forms a crucial link in the 111-km stretch from Katra to Banihal, which is part of the Udhampur-Srinagar-Baramulla Rail Link (USBRL) project. The bridge will be a prominent landmark in providing connectivity to the Kashmir valley.

Golden Joint

Approximately 406.25 metres of the deck, weighing 4880.57 tonne, was push launched from Bakkal end. The launching from this side was completed in June 2022. The launching nose was subsequently removed. Around 374.05 metres of the deck was launched from Kauri end which weighed around 4694.51 tonne. Both the deck tips

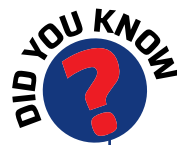
were brought close to each other within few millimetres of accuracy as planned by design and analysis. The sagging (deflection) at the tip was removed by using an upward force applied using prefabricated closure beam.

Splice plates & HSFG bolts were used to finally connect and integrate both tips of the deck, to make it structurally continuous.

Magical Moment

Waiting for something to unfold can be as thrilling as its arrival. In the unveiling of the overarch deck to the media and visiting dignitaries, and the subsequent "Golden Joint" moment, Afconians were not only dealing with the pressure of a memorable engineering landmark but also of the tremendous interest surrounding its arrival. The magical moment arrived with

bursting of firecrackers, and the crowd singing the national anthem. That moment will be cherished and never forgotten.



FOR THE FIRST TIME

in Indian Railways incremental launching was done on transition curve and a longitudinal gradient, both occurring at the same location

a fully equipped NABL laboratory was set up to monitor quality for every component of the bridge



**AROUND
30,350MT
OF STEEL**

has been used in total Chenab Railway Bridge construction

**OVER
10,000MT
OF STEEL**

has been used in the arch construction

**OVER
14,000MT
OF STEEL**

has been used in the construction of the bridge deck

**98 DECK SEGMENTS
EACH WEIGHING 85T**

were simultaneously launched from both ends of the Chenab river valley

ROAD TO A GOLDEN MILESTONE

2004

PROJECT LOA

The year 2004 saw the birth of Chenab Bridge project. In this year, the contract was awarded to Afcons, and the journey for making this marvel started.

2007

CONSTRUCTION OF PIERS

From this year the work for the construction of piers from S-180 begun.

2009

ERECTION OF PYLONS & CABLE CRANE

The lifeline of this project is the cable crane which is used to lift the segments and travel across gorge over Chenab River to the location of erection. The cable is supported by long steel pylons.

2010

DEVELOPMENT OF WORKSHOPS AT KOURI, SURANDI, & BAKKAL

The Chenab Bridge project consists of 30350 MT of permanent work steel, and almost 11000 MT of temporary work steel. The fabrication of segments for arch, viaduct, piers, and MS deck was carried out at these workshops.



2012

FABRICATION ACTIVITY STARTED

The fabrication of components for this massive structure started at Surandi workshop for piers, Kouri for arch & deck segments, Bakkal for MS deck segments, & trestles were outsourced to AIMIL Rajpura. A part of arch (2500MT) was outsourced to WIL Nagpur.

2014

SETTING UP OF NABL LAB

A NABL lab is the first-of-its-kind at any construction project in India, and first time in a railway project.

2015

EXCAVATION OF SLOPES

The huge slopes from Kouri and Bakkal were excavated by adopting top to bottom method. The whole slopes were strengthened by using rock bolts & dywidag bars.

2016

PIER ERECTION

The long steel piers, with longest being S-40 (130m), started being erected from both Bakkal & Kouri sides.

2016

LAUNCHING OF VIADUCT

The viaduct portion from S-180 to S-80 started in the year 2015, and a major milestone was achieved after completion of piers supporting viaduct.



2017

GOLDEN JOINT OF VIADUCT

The Golden Joint where the transition curve and straight line meet, was achieved in October 2017.

2017

START OF ARCH ERECTION

The heart of this project is the arch.

The erection of the arch started in November 2017. Stay Cables were also erected after the erection of each span.



2021

ARCH CONCRETING

After completion of arch erection, the next major & critical activity was arch concreting. The purpose of concreting was to fill the arch boxes and give lateral stability to the arch.



2021

COMPLETION OF ARCH ERECTION

The completion of arch erection was the major and most critical breakthrough for Afcons. April 2021 saw the completion of arch. The completion was accompanied with the hard work, sincerity, & dedication of engineers & workers. The arch erection saw lot of highs & lows with technical challenges. Climate was major hindrance to the erection of arch. In winters we had to cope with cold winds, and in summers the heat of sun and the steel structures. But it was a proud moment. Overcoming all circumstances, we were able to put forward a marvel successfully with quality & safety.

Golden Joint represents the joint where the segments from both ends, Bakkal & Kouri, meet. This Joint depicted the success, dedication, and hard work of all stakeholders involved in this project. And it's a major success story for Afcons. The Golden Joint ceremony saw many emotional scenes, with happiness, satisfaction, and pride taking over all Afconians.

2022

GOLDEN JOINT FOR MAIN BRIDGE

2022

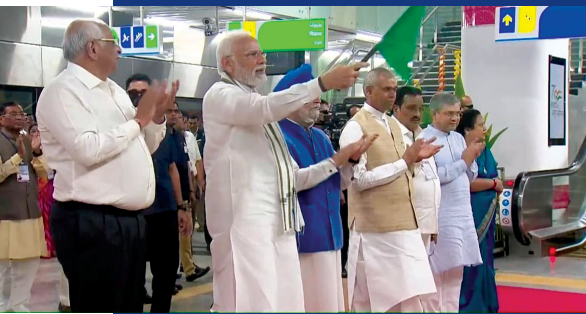
DECK LAUNCHING

The last major activity of this project was deck launching which started simultaneously from Kouri & Bakkal ends. The launching was incremental by using 400T capacity jacks.

2022

TRESTLE ERECTION

The trestles are the structures which would come over arch to support the MS deck segments. This was also a critical activity with higher level of difficulty, as the workers were exposed to extra heights, and most importantly the cold winter season.



PM Modi inaugurates Ahmedabad Metro Phase-1

The Honourable Prime Minister of India, Shri Narendra Modi, inaugurated Phase-1 of Ahmedabad Metro project on September 30. The inauguration took place at Kalupur Metro Station which is constructed by Afcons. Afcons has constructed Package-1 of the underground stretch, which includes two underground stations at Kalupur and Kankaria, over 3.3km tunnelling, cut & cover section, and a ramp connecting elevated and underground sections.



HR CORNER

- QMS Internal Auditor Training Programme was conducted in July 2022 at HO
- Training sessions on concreting equipment, operation & maintenance of Jack-up Platforms & Barges were conducted through MS Teams for various sites
- GTE Induction Training and Junior Management Development Programmes were conducted at HO, and virtually for various sites
- Various Soft Skills Trainings, including First Time Manager Training, Personal Motivation & Interpersonal Skills Training were conducted at HO, and online for various sites

MD visits Bangladesh



Mr S Paramasivan, Managing Director, visited Bangladesh Road Project in July. He encouraged the project team and emphasised on the need to maintain high quality and safety standards. He was accompanied by Mr Ravi Prakash, Director, Projects. During the visit, they also took part in a tree plantation drive.

JICA thumbs up for Afcons

A two-member delegation of Japan International Corporation Agency (JICA) visited the Kolkata Metro project in July. Mr Koji Masuda, advisor for Construction & Quality, and Ms Ohguchi Rio, JICA representative (Metro), visited Mahakaran Station, Howrah Maidan Station, and the underwater tunnels. They expressed satisfaction regarding project progress.



Railways top brass visit KRCL bridges

Mr VK Tripathi, Chairman and CEO, Railway Board, visited the 16 KRCL Bridges project sites in September and appreciated the work done at Bridges 39 and 43. He expressed his satisfaction on the quality, safety, and progress of the project.

ArcelorMittal CEO praises safety in Liberia

Mr Stefan Buys, Chief Executive Officer of Global Mining, ArcelorMittal, visited Liberia in September. He was impressed with the team's commitment to safety and motivated them to complete the project on time.



Ghana Railway Minister visit

The honourable Minister for Railways Development in Ghana, Mr John-Peter Amewu, visited Afcons HO in September. He met and interacted with Mr S Paramasivan, Managing Director, Mr R Anantakumar, Director (Operations) & Urban Infra BU Head, and Mr Udai Veer Singh, Vice President (Projects). He discussed about the future of railway and metro sectors and expressed his happiness over the progress of the Tema-Mpakadan railway project in Ghana.



Blood Donation Camp at Chenab

A blood donation camp was organised by the Chenab Railway Bridge project team on the occasion of Engineers Day in September. Employees of Afcons, Konkan and Northern Railways, CRPF, local residents, and others participated in the drive.

Independence Day

Afconians at various sites celebrated the 75th Independence Day on August 15, 2022, and the occasion was marked with various activities.



NEW PROJECTS

Airport Infrastructure project in Gabon

Afcons has been awarded the job of engineering, procurement, and construction of the Airside and Landside infrastructure of the new Libreville International Airport in the Republic of Gabon, by Gabon Special Economic Zone Airport SA.

New job at Chhara Port

Afcons has been assigned the work of transportation of rock for breakwater at Chhara Port by Simar Port Private Ltd.

NEW JOINEES

Mr Ananyo Maitra has joined as General Manager (Projects) for the Greater Male Connectivity Project, Maldives.

HSE AWARDS & APPRECIATION

National Safety Council of India award



The Ahmedabad Underground Metro project won four Golden Stars Safety Rating Award from the National Safety Council of India (NSCI). The award was announced after a two-month-long intensive assessment and evaluation of international safety practices at the project in Occupational Health & Safety Management Systems.

World Safety Organisation award

Bangalore Metro Underground Rail project received the prestigious 4 Star Rating Trophy from World Safety Organisation (India) at the State Level OHS&E Awards 2022. The award recognises the development and implementation



of most effective safety management system & procedures, and, rewards outstanding performance in OHS&E.

Environment Excellence Award

Ahmedabad Elevated Metro project won Environment Social Governance (ESG) Excellence award in construction Sector (Gujarat), at the 10th Global Safety Summit Awards 2022. The award recognises the achievements of various industries in environment, health, safety, and CSR. The Global Safety Summit 2022 was organised by Fire and Safety Forum, and United Nations Global Compact Network India.



Safety Innovation Award

Ahmedabad Underground Metro project has been honoured with Safety Innovation Award 2022 for implementing innovative safety management systems. The award was given by The Institution of Engineers (India) at the 19th Safety Convention held in New Delhi.

CII Safety Award

Katra-Dharam Bridge project has been awarded with 'Best Health & Safety Practice Award' by the Confederation of Indian Industry (CII) in the 9th CII Northern Region Inter Industry Competition on Environment Health & Safety Management. This is the fourth award for the project from CII Northern Region.

4 Million Safe Man Hours

The Roads and Highways Department, Bangladesh, has issued a certificate of appreciation to Bangladesh Road project team for achieving 4 Million Safe Man Hours as on July 31, 2022.

17.45 Million Safe Man Hours

The Katra-Dharam Bridge project achieved a significant milestone by completing 17.45 Million Safe Man Hours as on May 31, 2022. The Konkan Railway Corporation Limited issued a letter of appreciation to Afcons for the milestone.



Awards



INTERNATIONAL PROJECT OF THE YEAR AWARD FOR **Kuwait Road Project**

RA 256 Road project in Kuwait emerged as the winner of the International Project of the Year Award at the Construction World Global Awards

2022. Afcons also received the ENR recognition for being part of the Top 250 International Contractors. The awards were collected by Mr Mudit Sharma, Vice President, Business Development, at an event in Mumbai in October 2022.



Construction Contractor of the Year Award for Afcons

Afcons won the Construction Contractor of the Year Award at the Construction Week India Awards 2022. Mr Satish Paretkar, Director, Hydro & Underground, and, Mr KNM Rao, Executive Vice President, and BU Head, Hydro & Underground, received the award at an event in Mumbai.



Excellence in Concrete Construction Award for Kanpur Metro



Kanpur Metro Priority Corridor project was honoured with Excellence in Concrete Construction Award (First rank) in Infrastructure category. The award was given by the India Chapter of American Concrete Institute (ACI) at an event in Mumbai in October 2022.

Mr Vijayaraj Ramanathan, Deputy General Manager, Mr Sandeep Sharma, Assistant General Manager, and Mr Prakash Satpute, Assistant General Manager, received the award on behalf of Afcons.

Afcons wins Silver at Fulcrum Awards

Afcons' video campaign on the arch closure of Chenab Railway Bridge in 2021, won the silver award in Best Use of Content category at the Fulcrum Awards 2022.



ALERTS

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