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QUALITY CONCLAVE HELD IN NAGPUR

On 28th September, a one-day Quality Conclave on Quality Control and Quality Assurance for Civil and System works in both Project and O&M wings for Nagpur Metro was held at Metro Bhawan. The purpose of this conclave was to have an interactive session between the various officials from different disciplines on a common platform.

MD/Maha Metro also addressed the conclave. Some excerpts from his address are

- » Maha Metro is known among the Nagpurians for its quality of work and its officers and employees should strive to maintain this image.
- » Metro officers were not for performing easy tasks but completing the most difficult ones. “Anyone can do the easy jobs but when you do difficult ones it creates an identity for you. Maha Metro is known for its quality, and this has become its image”.
- » He also stressed that all the works of Maha Metro were of the best quality. He advised the officers and staffers to take all suggestions regarding quality seriously. “Even a small mistake can give an opportunity to others to criticize the whole project. If you find a single mistake you should immediately take remedial steps. This makes the work easier. Along with this you should review the entire project so that there is no scope for future errors”.
- » The knowledge of Metro officers should be practical. “Until we have practical knowledge of a subject, we will not be able to handle the job properly. We will have to continue to work as per standards set by Maha Metro. We have never compromised with quality in all these years”.
- » He cited the example of Chhatrapati Shivaji Terminus (CST) railway station in Mumbai. “It is still an example of British engineering and workmanship. When the station was constructed the resources and technology was limited but still not a single screw has come out and rainwater never drips from the ceiling”.
- » He said that all resources are available now and hence Metro officers should keep working hard so that Maha Metro’s image continues to remain excellent among citizens. “You should work very hard for achieving this target,” he added.



WORK OF BALANCE CANTILEVER ANAND TALKIES COMPLETED

The balanced cantilever over railway line near Anand Talkies, Sitabuldi, has been completed due to hard work done by team Maha Metro. The cantilever is part of Reach 4 (Sitabuldi to Prajapati Nagar) of Nagpur Metro between Sitabuldi and Cotton Market stations.

The Balanced Cantilever Bridge near Anand Talkies has a length of 231.2 metres. This is the longest balanced cantilever in Maharashtra and is thus unique in the state. Such cantilevers exist only in three other Metros – Delhi, Lucknow and Kochi.

The crossing of metro viaduct over railway tracks has always been a challenging task for Maha Metro considering the fact that Nagpur Junction is one of the busiest railway stations in the country. The Original proposal for the railway crossing was 87-meter span with Open Web Girder (OWG). Central Railway asked Maha Metro to increase the span to 100 meters so that their future expansion plans were not affected. Due to the increased length, the alignment of OWG came on the curved portion, which requires several temporary staging supports and temporary land. OWG requires heavy cranes, trained manpower and longer traffic and power blocks of minimum 4 - 5 hour duration. The Maintenance of OWG over railway lines at higher level is also risky.

However, with due preparedness and commitment towards completing the work within deadline, Maha Metro devised an optimum solution for the crossing by replacing the OWG with Balanced Cantilever Bridge.

After detailed discussions with railway authorities, consultants and experts and after carrying out site inspection and feasibility survey, a balanced cantilever bridge was found to be the optimal solution in terms of construction, safety as well as cost.

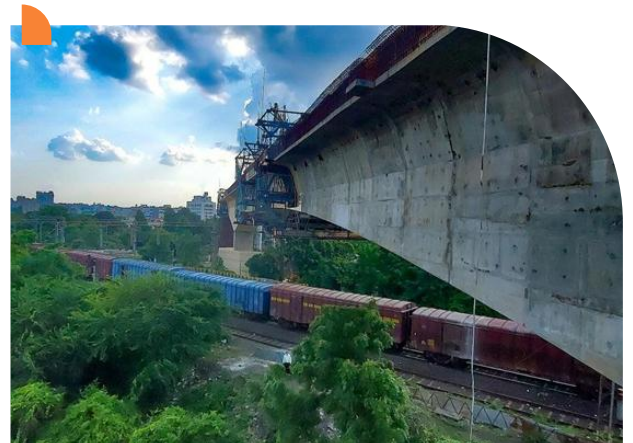
Balanced cantilever bridge is also popularly known as cantilever construction bridge (CLC Bridge). The basic principle behind this method is to attach the segment in an alternate manner at opposite ends of the cantilever supported

by piers. The segments are cast using the form traveller.

The construction work was carried out during railway block hours as per approved plan of Central Railway when train movement was restricted.

Usually, railway blocks permitted by Indian Railways is of maximum 3 hours duration. The blocks are usually granted during night when frequency of train movement is lesser. Maha Metro has so far completed about 90% civil work without any hindrance to railway traffic.

The construction of the cantilever was started in October 2019. Maha Metro took all precautions in view of the Covid-19 pandemic and completed the work on 27th September 2021. The construction of the cantilever including movement of form traveller during railway blocks was completely mishap free.



नवी मुंबई मेट्रो, लाइन -1, नवी मुंबई : आरडीएसओ ट्रायल रन



(25.08.2021 - 12.09.2021)

रोलिंग स्टॉक का आर.डी.एस.ओ (RDSO) ट्रायल रन 25.08.2021 से 12.09.2021 तक नवी मुंबई में आयोजित किया गया था।

इस कार्यक्रम में आर.डी.एस.ओ (RDSO) लखनऊ, महा मेट्रो नागपुर और एन. एम. एम. की टीम शामिल थी। आर.डी.एस.ओ से श्री. आनंद किशोर तिवारी, संयुक्त निदेशक, आरडीएसओ लखनऊ और श्री समीर कुमार, ए.आर.ई और 13 कर्मचारी उपस्थित थे। और महा मेट्रो की ओर से ठेकेदारों के साथ 17 अफसर शामिल थे।

आर.डी.एस.ओ ने 25 अगस्त 2021 से 12 सितंबर 2021 तक एन एम एम रोलिंग स्टॉक का ऑसिलेशन ट्रायल और इमरजेंसी ब्रेकिंग डिस्टेंस (ई.बी.डी) ट्रायल किया था। रिसर्च डिजाइन एंड स्टैंडर्ड ऑर्गनाइजेशन (RDSO) ने सेंद्रल पार्क, (स्टेशन 7) से पेणधर, (स्टेशन 11) मेट्रो लाइन 1, 5.14 किमी की दूरी के बीच ट्रायल आयोजित किया। यात्रियों के लिए मेट्रो को चालू करने की दिशा में ऑसिलेशन ट्रायल एक महत्वपूर्ण कदम है।

आरडीएसओ और महा मेट्रो टीम ने कड़ी मेहनत की और न्यूनतम संभव समय में ट्रायल रन पूरा किया।

इसी दौरान 2 सितंबर को डॉ. संजय मुखर्जी वी सी एंड एम डी, सिडको (VC & MD, CIDCO) अपने अन्य सिडको अधिकारियों के साथ ट्रायल में शामिल हुए। वहीं महा मेट्रो की ओर से श्री नामदेव रबडे ई डी /L-1 (एन एम एम लाइन 1), श्री अरुण सकसेना सीपीएम (सिविल) के साथ अन्य महा मेट्रो एम्प्लाइज भी उपस्थित थे।

डॉ. मुखर्जी ने सफल ट्रायल रन के लिए महा मेट्रो की सराहना भी की।





REACH-2 RIDERSHIP ESTIMATION SURVEY- GARWARE COLLEGE METRO STATION

The estimation of 'Ridership' with segmented operations on the priority section and stations on Reach-2 (Vanaz Metro Rail Station to Garware College Metro Rail Station) happened on the 24th & 25th September 2021.

As part of the study and survey initiated, over 3500 citizens residing in and around the priority section of Reach-1 (PCMC-Phugewadi) & Reach-2 (Vanaz – Garware College) stations had shown interest in the survey. The survey was conducted in person with capturing their views, feedback on their intentions, expectations, demands, apprehensions, barriers, challenges, and suggestions, if any, to use the Metro Rail services for their daily commute with a segmented roll-out of Revenue Services. The survey was done on a technology platform through the 'Google Form'.

An experiential Focused Group Discussions were organized for different segments of the citizens like Employees, Business Entrepreneurs (Retail & SMEs), Professionals, Students, Homemakers, Senior Citizens & Differently Abled Citizens. And, for the first time in the Metro Rail industry, the

FGD was held onboard the stations on each of the Reach - Sant Tukaram Nagar Metro Station (August 29th & 30th, 2010) and the Garware College Metro Rail Station (September 24th & 25th, 2021) for two days. The purpose of holding the FGD onboard the metro station is to enable the first few selected citizens to experience the station access, infra, facilities including enabling them to go onboard the train to experience their very own world-class Pune Metro train.

The citizens were engaged in a Group Discussion through eminent personalities from the Transport Industry, Ms. Rashmi Urdeshwareshe, former Director of Automobile Research Association of India (ARAI) & Mr. H N Patil, former Statistician of MSRTC.

The discussions began with a 'Safety Brief' and followed by a piece of detailed information on the metro services, facilities at and around the metro stations such as access facilities, parking, pick-up/drop-off bays, feeder services, multimodal integrations with other public transport services, official passenger information, and transactional integrated mobile app, metro services, ticketing systems, passenger information, and wayfinding signages, passenger information onboard the stations and the trains and other services related information.

Citizens were convinced and enthralled with the experiential sessions and have shared their concerns and few suggestions too. Some of the

important views and suggestions shared by the citizens are:

- » The Gap between the train and the platform (They have observed it's too wide and is a safety concern).
- » Provide concessional fares for the school students with concessional fares and the options of monthly passes.
- » Provision of Metro Integrated Feeder Services.
- » Provide Integrated ticketing with PMPML city bus services.
- » Exclusive trains for the Woman during the peak times and Reserved section for women on all trains.

Once the concerns on safety were addressed, the citizens of Pune showed interest in using the metro service and also would join Maha Metro

to reduce the carbon footprints, pollution levels, traffic congestion and make the city of Pune greener. They also expressed their happiness for allowing the citizens to use their bicycles onboard the metro trains for the daily commute.

In totality, about 38.64% of the sample size (3500 nos.) of survey citizens have expressed their willingness to take the metro services with segmented operations which indicates to about 15,000-17,000 citizens including the Joy Riders. After the initial 2 months of operations, the number of Joy Riders shall be reduced down drastically and the daily Commuter numbers shall settle down around 8000-9000 numbers. However, most of the citizens are willing to take the metro services for longer distances as and when additional stations become operational.



CREDAI PUNE METRO INVITES MD MAHA METRO AS CHIEF GUEST

Pune Metro was sanctioned in the year 2016 and since then, the real estate market has been eagerly waiting for the inception and the commercial start of Metro. The 33 km Metro line would boost the real estate development in the city of Pune. The real estate stalwarts in Pune have been keeping themselves updated on the progress of the Metro lines right from the start and is keen on discussion with Metro officials.

For that Matter, Credai Pune Metro invited MD Maha Metro, Dr Brijesh Dixit as a chief guest at their AGM at Ritz-Carlton hotel, Pune. Director (Works), Mr Atul Gadgil, GM-PR, Dr Hemant Sonawane also accompanied Dr Dixit at the event.

The annual general meeting of Credai Pune Metro happened on 18th September 2021 and all the stalwarts of the Real Estate industry were present at the event. After the formal introduction of the chief guest, on behalf of Maha Metro, Director Works presented the Pune metro progress and plans before all the officials.

It should be taken into account that Maha Metro is developing about 7 million sq. ft. area as a part of its property development initiative at four locations namely, Hill View Park Car Depot, Range Hill Depot, Swargate Multi-Modal Transport Hub, and Civil Court Interchange Station. In addition to it, Pune Metro is also developing property business spaces at a few of its stations. All these were of interest to the dignitaries present at the AGM.

Maha Metro also presented before the officials, the plan of extensions of Metro lines in Pune city and its projects in other cities like Nashik & Thane. A Q & A session was organised which was led by Dr Dixit from Maha Metro to address the queries that were asked by the audience. The MD Maha Metro emphasised the advantages of 5D BIM Technology implemented at all the projects under Maha Metro and how its implementation is helpful in optimizing cost & time. Further, Dr Dixit invited all the dignitaries to visit the property developments sites of Pune Metro for assessing their future business plans and investments.





BRICK TO BLOCK

Written by: Amit Baporikar (DGM- P&C)

Blockchain for Construction/Infrastructure: Construction and Infrastructure is a project-based industry that plays a major role and contributes greatly to the national economy and socio-economic development of every nation. With complex (execution) chain of operations including procurement, supply chain, payments/accounts settlement, and record-keeping under the project management umbrella. The industry has seen a growing number of new technologies for design and database management but 'fintech' applications are not yet discovered to its potent.

Primarily, blockchain is a distributed ledger of information, such as transactions, contracts, and agreements, which is recorded in form of database information, this technology is effectively successful in cryptocurrency and can offer an enormous chance of perfection for the construction and infrastructure sector.

A distributed ledger is a simple database but with special properties. It is distributed, meaning that the database is scattered around multiple locations in a shared manner, thus, each participant can interact or transact with one another and eliminates the need for any intermediaries. These interactions are then cryptographically secured and added to – and in the case of a blockchain system - an immutable chain of records.

Presence of Blockchain in Other Industries: The blockchain which is also known as a disruptive technology has already paved its way in many other sectors like banking, healthcare, politics, real estate, legal industry, security, government, rentals, charities, and education.

IBM & SONOCO are successfully using the blockchain for safer vaccinations and safeguard medication efficacy, which was precisely efficacious in COVID vaccination. Whereas, IBM's Blockchain solutions are already in use for Automotive Industry, Intellectual Property (IP) and Patents Industry, Freight Carriers, and Logistic Industry and Manufacturing.

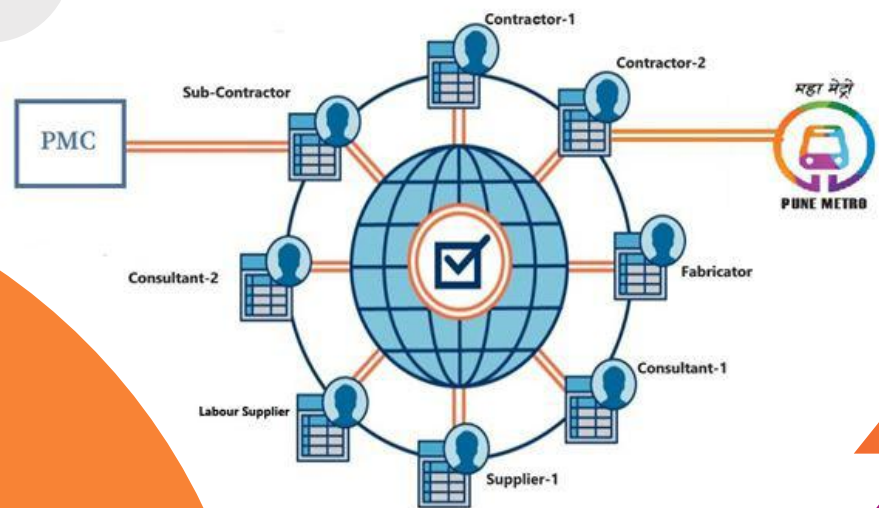


Blockchain's prospect for Construction and Infrastructure: The construction industry has regularly been mentioned as one of the world's most scrappy, high-impact sectors. The best examples for this phenomenon are all those capital infrastructure projects around the world that have a highly fragmented, dispersed, and complex supply chain.

For example, Burj Khalifa is truly the product of international collaboration; over 60 consultants including 30 on-site contracting companies from around the world were involved in the project. At the peak of construction, over 12,000 professionals and skilled workers from more than 100 countries were on site every day.

To manage such an extended supply chain, keep track of work in progress, schedule, cost, and payments, massive determination, and possessions are needed. On top of these challenges' construction projects experience different systems of mistakes, delays, and accidents at various stages and to varying degrees in itself a greater task. The lack of answerability in the construction industry has been a continuing issue for years and with extremely clasped profit limits, firms are dignified to find ways to cut corners and deflect blame from the resulting fiascos.

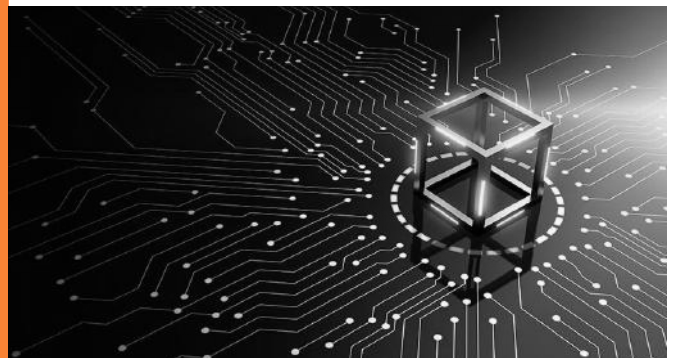
DISTRIBUTED LEDGER



These are exactly the main 'suffering points' and zones where blockchain can help and make the process more well-organized, because of its crystal clear and accountable technology between all participants tangled in the project. There are potential blockchain applications that have already been made known to and had inspiration on the economy.

Some of them can be unswervingly applied to the construction industry and some of them can assist as a basis for a more custom-made application for capital construction projects with regards to the below listed latent applications on an immediate basis:

- » Procurement
 - » BIM (Building Information Modeling)
- (Interplay of technology and above application to be continued in next episode of BRICK TO BLOCK)



Maa, The Cosmic Shakti

(Proverb: God could not be everywhere so, he created mothers)

The fleecy skin neatly draped in nine yards of saffron silk,
Bejewelled with jasmine wreath,
in the middle of her temples shine- a scarlet harvest moon
like a divine assertive crown, and hair cascading down;
the aura of cosmic shakti calms me down.
Her tender embrace filled with aroma of lilacs stays in the depth of my feelings.
I venerate, the presence of shakti in every second of my silence,
deeply conversing with my peace.
That's my religion, my belief.

A treasured fairy blessing deep within my soul;
The sight of my mother, I behold.
As I feel my strength begin to recede and I can't compete,
Emanating from the peak of snow-capped mountains,
I hear the melody of her bells of faith and hymn,
and the ripples of fragrant fumes pull me in.
I turn to the shrine in my heart where she resides,
To abate the horrors of chaotic world outside,
To save me from evil eyes and confer the cosmic thrill.

Each day a new me is born to destroy graver storms.
Her sacred chants and the gospel of her words never desert.
The grip of her grace never slackens, not even for a moment.
As I kneel to worship, to touch the crimson toes of her feet
Where dwells my entire universe and ocean deep,
my strength, my weakness and every vital force,
I feel entrusted, safe and protected in due course
like a victor serenading in the sky,
with conviction, I fly

Extracted from the book of poems
'A Potpourri of Proverbs'

by **Dr. Pragya Bajpai**

Wife of Shri Saharsh Bajpai
GM/ HR, Maha Metro, Pune

Foreword by Dr. Kumar Vishwas





On that *eventful day*

On that eventful day, so deeply moved was I;
To see an old beggar;
More shaken to know him,
to be my friend's grandfather1.....

That encounter with his tears,
Made me introspect;
Will his plight ever change?
I was a lot circumspect2.....

So unfortunate, the world we are part of,
Is sans feelings and emotions;
Where money, selfishness and materialism,
Have overtaken human values and relations3.....

The same day was a day of valentine,
A thought crossed my mind;
Why love only a person we have to marry,
Life is all about the responsibilities one ought to carry4.....

Then all those we should love who care for us,
All those we should care who love us;
Just we need to keep this in mind,
Certainly it will be a boon for the mankind5.....

- NILESH GHUGUSKAR
Manager (HR)

PROGRESS UPDATE



As on 30th September, 2021

METRO - NEW JOINEES



NAGPUR METRO		
Sr.No.	Stretch	Progress
1	Khapri to Sitabuldi	100%
2	Lokmanya Nagar to Sitabuldi	100%
3	Sitabuldi to Kasturchand Park	100%
4	Kasturchand Park to Automotive Sq.	96%
5	Sitabuldi to Prajapati Sq.	95%

PUNE METRO



Sanjay K. Lawhatre
General Manager (Design)



Param Singh Meena
Chief Project Manager (Signal)



Sahil Sheikh
Technician (Electro. Mech.)

PUNE METRO		
Sr.No.	Stretch	Progress
1	PCMC to St. Tukaram Nagar -E	94%
2	Vanaz to Garware -E	85%
3	Phugewadi to Bopodi-E	64%
4	Bopodi to Range Hill-E	40%
5	Garware to Civil Court-E	54%
6	Civil Court to Bund Garden-E	72%
7	Range Hill to Civil Court-UG	54%
8	Bund Garden to Ramwadi-E	50%
9	Civil Court to Swargate-UG	31%

SOCIAL MEDIA ENGAGEMENT

Citizens *Love*

Maha Metro!

Social media engagement of Pune & nagpur Metro far exceeds its other counterparts in the country. Pure testimony of 'Maazi Metro'



NAGPUR METRO

Average acquisition of FB followers per month

12,121



6,63,621
LIKES



14,100
FOLLOWERS



16,38,301
VIEWS



16,000
FOLLOWERS



PUNE METRO

Average acquisition of FB followers per month

6400



6,13,144
LIKES



14,300
FOLLOWERS



98,978
VIEWS



27,300
FOLLOWERS

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