B&F IC PROJECTS BUILDING ON A STRONG TECH FOUNDATION

CIDCO sites on top of the tech transformation

The CIDCO Project, a massive undertaking involving the construction of over 30,000 dwelling units across 4 Navi Mumbai's locations of Bamandongri, Kharkopar, Taloja, and Navade, has set new benchmarks in construction and leads in its deployment of tech solutions. The adept use of advanced precast technology, aluminum formwork, and a host of digital

VOICES FROM GROUND ZERO

> *To bring any change at a mass scale, the first step is awareness creation. We created an ecosystem for Digital awareness and further fueled it through certified Digital Ambassadors. As on date 100+ Digital Ambassadors have been certified at CIDCO and the idea is to have the entire project team certified.*

Shaik Nawaz Shareef
Project Director, CIDCO Housing Projects
& TFL Head

applications has won the project numerous accolades, including the prestigious PI Award, Technology Innovation of the Year 2023, and the FICCI Smart Urban Innovation Award 2023. A standout achievement was 'Mission-96', completing 96 flats in just 96 days!

Top-driven transformation is showing the numbers

Shaik Nawaz Shareef, Project Director, CIDCO Housing Projects & TFL Head, attributes their tech success to a vibrant team of Digital Ambassadors. "To bring any change at a mass scale, the first step is awareness creation. We created an ecosystem for Digital awareness and further fueled it through certified Digital Ambassadors. As on date 100+ Digital Ambassadors have been certified at CIDCO and the idea is to have the entire project team certified," he points out.

Among the team's several innovations is the Digital Scoreboard, a compact 25 parameter metric monitoring system to track the implementation and usage levels of digital Apps, keep their varied efforts on track and sustain healthy competition among different project sites. For efficient project management, the team has developed a series of Power BI Dashboards that reveal real time insights into various aspects of the project, such as finishing, procurement allocation & invoicing, and progress monitoring. Nawaz is delighted that these have improved transparency & collaboration across teams, resulting in more streamlined operations along with continuous improvement.

"With 16 different technology solutions implemented to improve safety, quality, equipment management, and execution, the productivity gains are substantial," exults O V Divakaran (OVD), Vice President & Head – Residential BU, and happily for him,

the numbers are showing. "While concrete wastage has dropped from 1.5% to 0.2%, indent booking takes just 20 minutes instead of 20 days and workmen induction time has reduced from 15 hours to less than 3 hours at CIDCO." Post-implementation of IB4U, inspection delays have decreased from 75% to less than 5%, and average NCR aging time has reduced from 7 days to less than 4 days.

With technology implementation being top driven, the transformation has been continuous with hybrid roles assigned to the Virtual Digital Champions to ensure that they remain connected to their core domains, all the while driving digital implementation.

Impressive statistics!

SHEILD	*Over 150,000 Safety Task Sheets (STS) raised from December 2023 to July 2024*
Material NxT	*More than 40,000 digital indents raised from January to July 2024*
WISA	*Inducted over 50,000 workmen across projects*
BIM 360 Docs	*Facilitated sharing of over 10,000 documents, including drawings and BIM models*
Equipment Inspections	*Conducted over 35,000 inspections*
Conquer	*Raised over 5,000 non-conformities/observations*

A safety third eye to keep everyone on their toes

In expansive construction sites that involves a lot of working at height, EHS is top priority for the site leadership and strengthening their arm is the Digital Scorecard at CIDCO sites, a real-time monitoring tool that tracks various EHS metrics across 12 key areas, including safety incidents, near misses, environmental compliance, and adherence to safety protocols. "Apart from promoting transparency and accountability, our Digital Scorecard makes EHS performance visible to all stakeholders, right from our workers to top management, that invokes a sense of responsibility," elaborates Gopi Krishnan, EHS Cluster Head. "This is akin to speed cameras on roads that force motorists to drive safely," he smiles at his analogy. "Both supervisors and workers are acutely aware that their actions are being monitored and evaluated in real time."

The scorecard's data aggregation provides EHS managers with a comprehensive overview of each site's safety performance, enabling them to identify trends, potential hazards, and areas that require immediate attention.

More innovations, more visibility, more savings

The Mobile Automation System or MOBA, implemented at the Kharkopar and Taloja sites to monitor fuel usage and prevent theft has already started to make its presence felt by detecting fuel theft in transit mixers and trailers, enabling the team to take corrective actions and make significant cost savings. Their site surveys have been revolutionized thanks to the Trimble SX-12

> *The Tile Tracking Dashboard at CIDCO Taloja tracks tile utilization and wastage on a unit-by-unit basis, providing comparative data on scope quantity versus issued quantity.*

Suryawanshi Sachin Shankarrao
Project Manager, CIDCO Taloja

scanning technology with its 1" angular accuracy and 1.5 mm scan range noise at 200 m, enabling As-Built to Design Deviation Analysis, Floor Inspections, and Cadastral Scans. The Trimble SX-12 was piloted at CIDCO Kharkopar and is planned for full-fledged implementation at CIDCO Navade.

"The Tile Tracking Dashboard at CIDCO Taloja tracks tile utilization and wastage on a unit-by-unit basis, providing comparative data on scope quantity versus issued quantity," shares Project Manager, Suryawanshi Sachin Shankarrao.

"By analyzing utilization patterns, the team can identify areas to reduce wastage, driving efficiency and sustainability."

Digicast, tracking precast elements with precision

Precasting brings in speed & precision but managing the life cycle from mould preparation to final erection can be challenging. "Our specifically designed solution to this challenge is Digicast," quips Karunanithi R, Project Manager at CIDCO Kharkopar. Its pilot implementation at the Kharkopar Precast Yard has already shown promising results, and plans are underway to fully

implement it at the Navade site. "Digicast has brought in a new level of transparency to our operations," Karunanithi explains. "We are now able to monitor each stage of the precast process in real time, ensuring that every element meets quality standards before being installed and trace each precast element back to its origin, helping us to maintain quality and address any issues immediately."

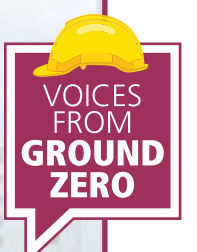### Ensuring quick, prompt responses to queries

In a dynamic environment like a construction site, addressing issues swiftly is crucial and the CIDCO team's QR-Based Feedback System ensures that any digital application-related query or issue is swiftly resolved. It is easy to use too: users only need to scan QR codes, strategically placed across sites, to directly send their feedback to the Digital Champion of their

> *Digicast has brought in a new level of transparency to our operations. We are now able to monitor each stage of the precast process in real time, ensuring that every element meets quality standards before being installed and trace each precast element back to its origin, helping us to maintain quality and address any issues immediately.*

Karunanithi R
Project Manager, CIDCO Kharkopar

> *Using Power Automate, the system sends mail notifications to Quality In-charges about the impending expiry of mix designs, prompting them to take necessary actions well in advance.*

Krishna Kumar Telikicherla
Digital Officer

VOICES FROM GROUND ZERO

respective site. This system has significantly reduced the time to resolve issues, ensure that digital tools are always functioning optimally and that site operations are not disrupted.

Automated mix design expiry notifications

"Quality is another one of our top priorities and with the **automated mix design expiry notifications,** we have taken proactive steps to maintain it," highlights Krishna Kumar Telikicherla, Digital Officer. "Using Power Automate, the

system sends mail notifications to Quality In-charges about the impending expiry of mix designs, prompting them to take necessary actions well in advance," he adds. This automation has minimized the risk of using expired mixes thereby avoiding contractual and operational issues.

"We will be the first B&F project to implement the Quality Sanyog application," says a proud Niraj Kumar Mishra, Project Manager at CIDCO Navade, underscoring the site's efforts to drive Quality.

Niraj Kumar Mishra
Project Manager, CIDCO Navade

> *We will be the first B&F project to implement the Quality Sanyog application.*

Collaboration and BIM integration

"BIM has already helped us avert potential losses by detecting clashes in pipe routing," says an impressed Bibhas Belel, Project Manager at CIDCO Bamandongri. "MEP quantity extraction and client certification have been streamlined through BIM, and as-built drawings are readily accepted by architects, PMC, and clients. Additionally, progress meetings, delay analysis, and execution plans are all monitored via BIM, with 3D models integrated into the Primavera schedule for comprehensive project visualization," he adds sagely.

Well-deserved recognition

The digital initiatives at CIDCO have not gone unnoticed, with the project receiving numerous awards, including the British Safety Council's Sword of Honour, NSCI Safety Award, RoSPA Award, and the CIDC Vishwakarma Award 2023. Internally, the project has been honoured with the Corporate & IC Digital & BIM Awards.

VOICES FROM GROUND ZERO

Bibhas Belel
Project Manager, CIDCO Bamandongri

> *Progress meetings, delay analysis, and execution plans are all monitored via BIM, with 3D models integrated into the Primavera schedule for comprehensive project visualization.*

As the CIDCO projects continue to push the boundaries of digital innovation, their success serves as a blueprint for new sites like Navade, to implement the takeaways from technologies piloted at Bamandongri, Kharkopar, Taloja, and demonstrate the transformative power of technology.