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- Choosing the Right Tyres...80
- Progress Report:
Agra Metro Rail...100
- Purvanchal Expressway:
India's longest...94
- Large Format Municipalities:
Efficient Governance?...90



page...117

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EDITOR'S NOTE

NOW GREEN MEANS MONEY

ESG stands for Environmental, Social and Governance. From financial year 2022-2023, the top 1,000 listed companies in India (by market capitalisation) will need to prepare a 'business responsibility and sustainability report' (or BRSR), containing detailed ESG disclosures. The BRSR has to be a part of the annual report, which gets notified to the stock exchanges, published on official company websites and separately provided to shareholders. Before the BRSR became mandatory, the top 1,000 listed companies in India (by market capitalisation) had to publish a relatively shorter 'business responsibility report'.

In the current environment, health, safety and governance could be parameters of the measure of social aspects of the ESG agenda and will remain a high priority for the engineering and construction (E&C) industry. Governance will be a sensitive issue given the size and complexity of contracts, competitive bidding processes and the need to engage with both public and private stakeholders and to prevent bribery, corruption and anticompetitive behaviour. The building and construction sector is responsible for 39 per cent of carbon emissions globally, according to the World Green Building Council, and hence has to work hard to match the goals and commitments. Therefore, carbon reduction and environmental initiatives are a business imperative for contractors in the days ahead.

India ranks a lowly 120 among 165 countries in its progress towards achieving all 17 SDGs (sustainable development goals), lower than Sri Lanka, Nepal and Bangladesh. Reliance Industries Ltd (RIL), Vedanta Ltd, JSW Energy and HDFC Bank have planned to go carbon neutral in the next few decades. Good ESG scores are helping companies tap into newer pools of capital and build valuations to attract investors in these reorganised entities, while enhancing shareholder value.

Vedanta is restructuring its operations and may demerge and list its aluminium, iron and steel, and oil and gas businesses as standalone entities. Restructuring a mammoth like RIL means transferring its gasification assets to a wholly owned unit, which will help it produce hydrogen to establish a hydrogen ecosystem while JSW Energy is housing its green energy business in a new wholly owned unit, JSW Neo Energy Ltd, as it continues to keep the thermal business as part of the main company. The green business is expected to



contribute more than 62 per cent of JSW's earnings before interest, taxes, depreciation and amortisation.

Despite my assessment that the war would be a short and swift strike-and-occupy kind of exercise, it has turned out to be a twister and is now propelling the pains of supply disruptions, ballooning inflation to astronomical levels. All margins are under pressure. Companies are sitting with orders but their inability to supply products owing to critical part shortages is causing them to bleed. Fortunately, the building and construction industry is not facing these issues although inflation caused by cement, steel and bitumen has hit margins and time schedules.

Holcim, the owner of companies like ACC, Ambuja and Lafarge among cement brands, is India's second largest producer of cement with a combined capacity of 45 million tonne, excluding Lafarge which has a capacity of 8 million tonne. Sweden, where Holcim is based, has the highest carbon tax rate worldwide at \$ 137 per metric tonne of CO2 equivalent. Holcim has decided to exit the Indian cement business and put it on the block. Adani and JSW groups are the frontrunners for this deal. Holcim's move may be in line with its goals to reduce its carbon footprint to net zero. It has even joined the Science-Based Targets initiative detailing its net-zero pathway to 2050. Holcim would be a torchbearer in ESG within the building material industry.

On the eve of the 7th anniversary of the Smart Cities Mission, I feel the seeds to save the planet have been sown by turning the imperative into a commercially beneficial movement. After BRSR, the Government may push for a carbon tax in India too. It is quite likely that in the years ahead, if you are not green you would pay more – and if you are green, you would be more valuable.

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Going Touchless

CW explores the role of touchless technologies for building safety in a world past pandemic.

The pandemic has redefined how we think of safety. Prior to COVID-19, any mention of building safety and security would conjure up images of tall fencing, limited entry points, frisking and so on. Today, invisible germs that live on surfaces are seen to be a bigger threat. Consequently, the strongest protection mechanism for a structure comprises technologies that allow people to enter and exit, and use the utilities sans touch.

“Touchless technology is the foremost defence to ensure the safety of residential and commercial real-estate occupants,” avers **Shabbir Kanchwala, Senior Vice President, K Raheja.**

“At CapitaLand India, since the early stages of the pandemic, providing a safe and secure environment to tenants and employees has involved several multi-layered measures designed to minimise contact among people and surfaces,” says **Gauri Shankar Nagabhushanam, CEO, India Business Parks, CapitaLand Investment.** “Tapping on our international experience, we are also continually exploring the use of technological solutions to further

strengthen health and safety measures in business parks.”

“After the pandemic, touchless technology has gained much wider acceptance among designers and clients alike, which should pave the way for it to be used more inclusively in future projects,” observes **Sohrab Dalal, Partner, DPA,** who has used touchless technology in some of his landmark projects such as the Nasscom headquarters, Adobe Development



Mostly cloudy



Your schedule

- 6 AM — Morning Walk
- 8 AM — Board Meeting
- 10 AM — Work
- 12 PM — Lunch with Family
- 2 PM — Work
- 5 PM — Dinner



Photo: For representational purpose

Centre, and some commercial buildings of Vatika and DLF.

And according to **Ram Raheja, Director at S Raheja Realty**, the pandemic has led to a fast-paced evolution in digital applications and accelerated the adoption of devices usable or operable without a human interface such as camera-based gestures, proximity-enabled screens and voice recognition as the world had become mostly virtual for a long period.

Safety plus

Touchless technologies are of paramount importance in establishing health and safety protocols in a post-pandemic world but, beyond that, the technologies also facilitate “seamless and improved customer experiences”, opines **Gupta Boda, Head-Digital and IT Solutions, Brigade Group**.

Aside from hygiene, **Ar Indrajit Kembhavi of Kembhavi Architects** observes that touchless panels

QUICK BYTES

- Apart from hygiene, touchless tech delivers efficiency and optimal usage of associated amenities.
- Trending: camera-based gestures, proximity enabled screens, voice recognition and automated thermal control.
- The decision to use touchless technology for health and safety does not hamper the process of building design.



- **Shabbir Kanchwala**, Senior Vice President, K Raheja

“Touchless technology is the foremost defence to ensure the safety of occupants.”



“It is important that products have scalability and flexibility to adapt to the challenges of the industry.”

- **Gupta Boda**, Head - Digital and IT Solutions, Brigade Group

deliver efficiency and the optimal usage of associated amenities through timers, synchronisation (lifts) and monitoring through thermal controls (windows).

What’s ‘hands-free’?

Touchless technologies can be

deployed in the parking area, to facilitate access to a building and, thereafter, to make safe the use of services such as lifts, washrooms, cafeterias, and even walk-down passages.

Here’s a look at some touchless technology deployments.

“During the pandemic, some of our existing commercial clients asked us to install sensor-based, access-control solutions in the lobbies of their projects, and sensor-based amenities in the washrooms,” shares **Architect Nilesh Sawant**. “Sensor-based, access control solutions work well when the flow of people entering is about 100 per hour.”

“At JLL, we have implemented touchless check-in tools, sensor-based contactless elevators, smart cafeterias, washrooms, and various other solutions to create a truly touchless environment in multiple client facilities across sectors like IT/ITeS, banking and financial services, and more,” says **Ashish Nanda, Group Account Director/Regional Product Lead, JLL Work Dynamics, West Asia**.

“We have automated main entrances using sensor-based



Several premium projects have been designed with sensor-based lights in common areas.

Touchless Technology has a Minimal Impact on Architecture

The architectural impact of touchless technologies is minimal from the perspective of function and aesthetics, opines **Architect Indrajit Kembhavi of Kembhavi Architects**, a practice that has implemented touchless panels in projects such as Shimoga Airport, Bijapur Airport and Novel Office spaces.

“Essentially, the decision to use touchless technologies does not really impact building design because despite the fact that the design of many interactive elements in architecture – such as lighting and electrical systems, door openings, restrooms fittings and others – have improved manifold in the past few decades, these elements are still considered standalone design features rather than being amalgamated into the architecture, explains **Sohrab Dalal, Partner, DPA**.

Having said that, architects and designers must take some precautions. “A proper design strategy is vital to conceal motors and sensors so they don’t mar the aesthetics visually,” cautions Kembhavi.

sliding doors in several projects including Raheja Tower and Vivarea,” says Kanchwala. “We installed touchless buttons in lifts across projects such as Raheja Tower and Vivarea, eliminating the need for contact. Lift call buttons are now gesture-based. We also installed a voice-assistant in lifts to enable a fully contact-less process. Sensor-based urinals and washbasin faucets ensure zero contact with surfaces in restrooms in our commercial, hotel and mall projects.”

“Many of our premium projects such as Newlight and Z16 have been designed with sensor-based lights in passages, staircases and common areas; this initiative additionally saves electricity and enhances the residents’ experiences,” shares Raheja.

At the Brigade Group’s World Trade Centre (WTC) buildings in Chennai and Bengaluru (and soon in Kochi), the entry system is radio frequency identification-based and hence fully touchless as are the visitor management system, the use of amenities in washrooms (sensor-driven), cafeteria services (mobile



technology.”

- Indrajit Kembhavi, Architect, Kembhavi Architects



washrooms help create a truly touchless environment.”

- Ashish Nanda, Group Account Director/ Regional Product Lead, JLL Work Dynamics, West Asia

app and QR code-based) and the attendance system (GPS and mobile app-based). At WTC Bengaluru, the touchless experience extends to the elevators with a gesture detection system. Next up for implementation

in the WTCs is a facial recognition with artificial intelligence (AI) machine-learning analytics system for investigations and surveillance.

Other technologies deployed in the Brigade Group’s Orion Mall and other properties include touchless AI machine-learning supported footfall counts and attendance and safety measurement for outsourced employees, and temperature and safety monitoring.

Some enhanced contactless measures at CapitaLand’s 12 business parks spanning close to 19 million sq ft of space across six cities – Bengaluru, Chennai, Hyderabad, Mumbai, Pune and Gurgaon – include thermal scanners for temperature screening at entry points; contactless lift activation with foot-operated pedal system (piloted at International Tech Park Chennai, Taramani), hands-free sanitiser dispensers at common areas; hands-free access with foot-operated doors for washrooms; hands-free faucets at washrooms; app-based visitor management system; and contactless security for business park entry.

Cost concerns

While the pandemic has put touchless technologies in the spotlight, “these investments are being driven by necessity, not by a desire to use the best available technology,” shares Sawant. “Essentially, customers want to cater to a need at the lowest possible cost.”

Very often, clients are put off by the initial capital outlay for touchless solutions, adds Dalal.

What would help is educating clients about the lifecycle cost, energy savings and hygiene benefits that such technologies provide, thereby recovering the incremental capital cost, he suggests. “Regular workshops need to be held to educate designers as well as clients in these aspects.”

Given that touchless technology also costs more owing to the addition of motors and sensors and additional power backup for those components, Kembhavi points out that mass implementation and domestic production could help reduce costs. "Tapping alternative energy sources like the sun and wind could also help reduce recurring costs," he says.

Touchless challenges

Initially, as the entire industry acquainted itself with the need for such touchless measures and organised supply chains, the challenge was availability, observes Kanchwala. "Very few vendors were



of residents."

**- Ram Raheja, Director,
S Raheja Realty**

dealing with good quality touchless technology with the capacity to supply to a national developer. This was especially a concern because we needed the products urgently and in large quantities, so we were looking for reliable vendors with

"Sensor-based lights save electricity and enhance the living experience



"We are exploring technological solutions to further strengthen health and

safety measures in business parks."

**- Gauri Shankar Nagabhushana,
CEO, CapitaLand Investment**

adequate capacities. At the time, the costs associated with touchless technology were high, especially when including such systems in existing infrastructure. We also had to ensure the product would be compatible with our systems."

"As ours was a large-scale integration, ensuring technology quality, longevity and reliability across multiple units, being used by a variety of environments, was also initially a concern, especially as those products would be in charge of the safety of our people," adds Kanchwala. "Some voice-recognition systems were unable to cope with accents and faltered in noisy environments. Gesture-recognition systems were unable to recognise hand movements in poor lighting and were unable to record imprecise gestures." To overcome this challenge, the team at K Raheja engaged with more vendors and understood their technology and asked other users for feedback. "Our operations team assessed the capabilities of technologies before including them."

While clients find it exciting to see the entire lifecycle covered using tech, a common opinion is that it is difficult to adopt multiple technologies simultaneously, says Nanda. "Usually, we recommend a phase-wise adoption wherein the top priorities can be picked first, and relevant products can be explored subsequently." So far

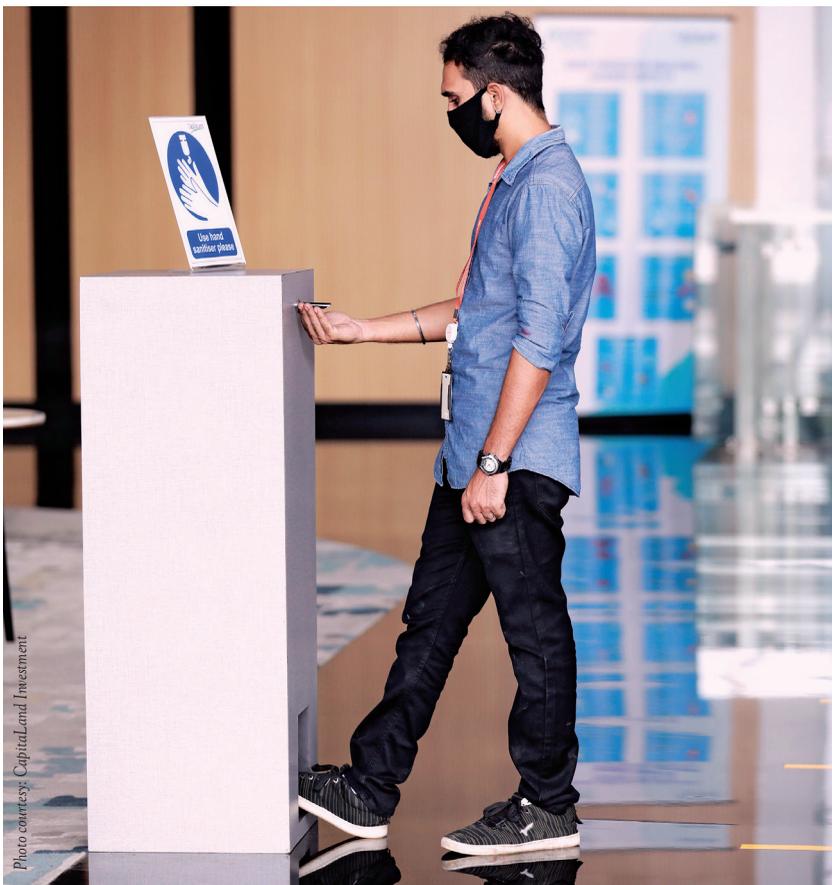


Photo courtesy: CapitaLand Investment

Since the pandemic, providing a safe and secure environment to tenants and employees has involved several multi-layered measures designed to minimise contact among people and surfaces.

implementations have been done for specific technologies to impact high-density touchpoints, he adds. "Concerns around data security and stable networks will need to be worked on as and when they arise."

Facilitating ops

A challenge associated with touchless technology from the user's perspective is ease of operability. Sohrab recommends that all types of touchless technology be installed with operating instructions or signage because people are traditionally accustomed to manual systems and are often hesitant to use touchless variants.

Educating users would also help. "Like with any new technology or initiative, we invested in educating our tenants and their employees about the various new measures we had adopted in the interest of their security and well-being," shares CapitaLand's Nagabhushanam. "A dedicated property management task force oversees the business parks under the new normal and helps them adjust to the various safety norms. The task force's roles include monitoring hygiene processes, ensuring high-contact



"Investments in touchless technology are driven by necessity."

- Nilesh Sawant, Architect



"Touchless technology is widely accepted among designers and clients alike."

- Sohrab Dalal, Partner, DPA

areas and common spaces are cleaned and disinfected frequently and hand sanitisers, air purifiers, sanitisation devices and signages on health and safety measures are appropriately placed in common areas."

At the end of the day, the more seamless the transition to touchless, the easier it is for users. At Brigade Group, the focus is on promoting "stringent change management processes for the seamless

migration and rollout of technologies, including robust user acceptance testing (UAT), which helps teams minimise and/or mitigate challenges in technology implementation and adoption," according to Boda.

Vendor selection

The Brigade Group evaluates multiple PropTech solutions to fulfil its business needs with the support of Brigade REAP (India's top PropTech accelerator), shares Boda.

"We evaluate vendors on fulfilment of our needs; user acceptance quality of products in terms of the extent to which they fulfil our essential requirements, security and compliance; seamless integration with the existing enterprise infrastructure; aftersales service and support; and total cost of ownership, he elaborates. "It is important that the products have scalability, continuously enhanced capabilities and user experience, with the flexibility to adapt to the challenges of the industry/project and reasonable delivery timelines."

"While choosing our partners, we consider whether they are the right fit for our business needs and can make our operations seamless and convenient for our tenants," says Nagabhushanam. "Specifically, we evaluate security compliance, execution capabilities, technology and innovation, integration with our property management system, timelines for implementation setup, and support. We always seek to work with partners who adopt more innovative solutions and future-ready initiatives that will boost our resiliency and ensure our business parks remain among the safest in the country."

Now, that's an objective every real-estate operator should aim for!



Photo: For representational purpose

There is a need for good-quality touchless technology that is long lasting and reliable across multiple units and environments.

- CHARU BAHRI

To share your views on what's trending in Touchless Technologies in real estate, write in at Feedback@ConstructionWorld.in