



# Transforming Real Estate with Digital Enablement

**CW DESIGN BUILD** analyses key technology trends, digitalisation and sustainability in the facility management services market.



Photo courtesy: Quest Integrated Facility Management Services

The need to create a safe and healthy workplace environment has never been greater than today.

Workplace transformation, which has always been top of the agenda for corporate real-estate leaders, has been further accelerated owing

to the pandemic, and factors such as cost pressures and the need to have business continuity plans, according to **Sandeep Sethi, Managing Director, Corporate Solutions, West Asia, JLL**. "This has elevated the role of workplace

leaders and brought facilities management (FM) to the forefront of workplace services."

According to an independent report, the global FM market size is projected to reach \$1,759.25 billion by 2028, exhibiting a CAGR of

5 per cent during the forecast period. India is one of the major contributors to this with a forecasted value of \$400 billion by 2025 at a CAGR of 20 per cent, informs **Pradeep Lala, Managing Director and CEO, Embassy Services (ESPL)**. There is certainly a lot of job creation and economic growth that the industry will cater to.

As we move forward, the role of FM companies will be more strategic and long term in nature with facets like digitisation, sustainability, hygiene, employee wellness and safety gaining importance, shares **Sathish Rajendren, COO, Facilities and Asset Management Services, Knight Frank India**. "The FM industry is positioned for a V-shaped recovery with a ray of hope in a different form of opportunities that will transform rapidly in 2021-22."

#### Demand drivers

In the current environment, given the unforeseen delays in the mass vaccination drive, essential service providers will continue to be growth recovery drivers, avers **Rupal Sinha, CEO, Qness Integrated Facility Management Services**. Essential services industries such as IT-ITES, healthcare, BFSI and manufacturing and the public utility sectors will help sustain or drive up demand. However, logistics, e-commerce and manufacturing are the segments that will provide the much-needed growth, she adds.

"For a long time, the FM industry has been concentrated around the commercial market space where large IT or business parks were seeking solutions from FM service providers," says Lala. However, he adds that with real-estate developers competing to provide the best facilities in all segments, the overall vision requires proficient FM services. Any building, whether commercial, industrial or

residential, cannot function without a proficient FM wing that can anticipate and calculate risks, define asset value, analyse system performance, and deploy sustainable practices.

According to Sethi, "While business as usual (BAU) facilities services continue to grow, workplace transformation across sectors means that demand for new offerings, like workplace consulting, space optimisation, delivering a uniform workplace-like experience to employees working from anywhere, mobile engineering services, sensor and demand-based FM operations, green buildings and indoor air quality monitoring, is expected to provide large opportunities in future."

#### Key regulations for the FM industry in India

"While no regulations have yet been floated, it is presumed that the industry will adopt newer standards of international organisations and adapt them to suit our region-specific



**"With building automation systems, FM services will help minimise the total environmental impact of premises."**

**- Rupal Sinha, CEO, Qness Integrated Facility Management Services**

requirements," says **Mahender Singh R, Director, International Facility Management Association (IFMA), India & South East Asia**.

Broadly speaking, these standards attribute importance to health and hygiene, the wellbeing of people and buildings, technological development and the advancement of managing flexibilities at work, including asset and human capital. As standards and regulations are precautionary and in a constant state of evolution, any regulation put in force or standards implemented are subject to change.

#### Technology trends in the FM services market

FM providers are changing their strategy to tackle pandemic-like situations. FM is evolving to learn newer innovations and adopt broad-based thinking to constantly ideate and meet the ever-growing demand from customers and organisations, shares Singh.

New trends are evolving as customers are looking to redefine office space, improve efficiency and consolidate. But all these must be underlined by technology, believes **Ashutosh Jha, Managing Director, Orion Security Solutions**.

Smart technologies are accelerating every aspect of FM business processes leading to managing the environment with more tech enabled building

### QUICK BYTES

- India's FM industry is forecasted to reach \$400 billion by 2025 at 20% CAGR.
- Technology trends in FM: IoT, AI, ML and Cloud computing.
- FM players are in demand to help companies adopt sustainable and green practices.

management solutions focused on healthcare, wellness, social distancing, hygiene, and indoor clean air quality for the occupants, shares Sinha.

She adds, "Intelligent solutions such as touchless visitor management integrated with thermal camera for e-health check and security of people, QR based entry and attendance management, people flow technology for social distancing and many new technologies such as UVC, are being used to disinfect and maintain quality of indoor air and to suppress any virus load in the environment."

The evolution of trends is rapid and started with ERP solutions; with IoT, AI, ML and Cloud computing coming in, the change has been massive, observes Rajendren. Other advanced developments in terms of technology solutions are



**"FM services are regarded as the most appropriate advisors to all challenges that limit sustainability."**

- Pradeep Lala, Managing Director and CEO, Embassy Services (ESPL)



**"It is presumed that the industry may adopt newer standards of international organisations."**

- Mahender Singh R, Director, International Facility Management Association, India & South East Asia

the interface that provides contactless, paperless and real-time data for decision-making.

Security services in terms of electronic surveillance, non-personal communication and contactless services (parking, delivery of items, communication, e-payments, virtual shopping, e-learning, remote banking, etc) will ensure the safety and wellbeing of occupants, according to Rajendren. "These technologies are being extensively used in the commercial real estate (CRE) functional domain and will further be refined to ensure higher speed and quality of delivery with wellness as the primary objective."

"The segment has quickly pivoted to bring effective and meaningful technologies aimed at solving real-world problems, such as touchless technologies, tools to create safe and healthy workplaces

## Case study

- **Type of project:** E-Spectrum technology suite
- **Services offered:** Embassy 360, digital logbook, workforce management, smart metering, VMS, feedback tool, inventory management, diesel monitoring systems, digitised reporting modules
- **Cost:** Varies based on requirements, size, typology and portfolio
- **Technologies used:** Digital dashboards, IoT-based sensors, NFC, BEACON

### How did this benefit the client?

Through the use of the E-Spectrum technology suite, clients foster a data-centric, transparent and digitised model of facility management. Apart from the ability to provide predictive styles of monitoring facilities, assets and workforce, it works in a completely digitised, paperless ecosystem that can be remotely monitored in real time from anywhere across the globe. This is extremely useful for clients with facilities across

multiple geographies but a centralised team to manage facility operations.

When the FM team has access to real-time monitoring of data related to asset performance, consumption, etc, they can prevent equipment failure, reduce resource utilisation, and predict requirements such as maintenance schedules and resource needs like water, fuel, electricity, air quality, etc. This is also critical to ensuring zero downtime of technical assets, which in case of failure can pose serious monetary loss to organisations. It is only with access to accurate data that consumption can be studied and utilisation reduced.

"We also maintain a strong emphasis on people empowered with technology," shares Pradeep Lala,

Managing Director and CEO, Embassy Services (ESPL).

"The E-Spectrum deck does just that. In a world where everyone is moving toward AI and robotics, we ensure a strong focus on retaining people to oversee tasks and empower them with technology for better efficiency and accuracy. After all, FM is all about giving life to spaces and that would not be possible without people."



# CW DESIGN BUILD COVER STORY

like smart elevators, remote monitoring of critical engineering assets, monitoring indoor air quality in real time, smart cafeteria and transport operations, robotic UV disinfection and so on," avers Sethi.

Digitisation can help ensure healthy building and smooth infrastructure operations while reducing costs, improving productivity and making the premises more sustainable, says Jha. It also leads to better organisation of departments, less unplanned downtime and better overall business performance.

Lala shares a few measures taken at ESPL to ensure the safety of clients and the community:



**operations."**

**- Ashutosh Jha, Managing Director, Orion Security Solutions**

- **Entry/exit:** Automated thermal scanning devices, assembled by ESPL, allow for contactless temperature screening at the entrance through Cloud-integrated infrared thermal scanners. The system triggers an

**"Digitisation can help ensure healthy buildings and smooth infrastructure**

alarm when a mask is not worn or the person has a high body temperature. This allows for efficient contact tracing.

- **Inside facilities:** Smart restrooms have been created where Cloud-integrated sensors allow admins to check on occupancy, gas and bin levels. Sanitisers and awareness signage have been provided across lobbies and common areas. Food courts and engagement zones have been redesigned to meet the demands of social distancing. Stringent waste management procedures have been instituted for medical waste.
- **Innovation for efficiency:** As a response to the pandemic, aerial microbial disinfection or drone disinfection was launched in June 2020 to help the Brihanmumbai Municipal Corporation (BMC) with disinfection of mosquito breeding grounds and other vector-borne diseases in areas that are usually inaccessible. These drones can fly over 500 m high for 12 hours while carrying over 15 litre of disinfectant; they can cover an area of over 50 acre in a single day.

## Technology at its best!

"We have been doing an extremely interesting piece of work for many of our forward-looking clients delivering exceptional transformational value in the process," shares **Sandeep Sethi, Managing Director, Corporate Solutions, West Asia, JLL**. "It is a move to predictive and reliability-centric maintenance through the use of sensor-based technology. Traditionally, the scope of work for our engineering projects is the maintenance of transformers, chillers, HVACs, UPS, generators, distribution networks, etc, and the engineering services for facilities have been schedule-based. But with the use of sensor-based technology, we have shifted to a predictive maintenance model. In such instances, we have seen significant benefits of labour reduction of up to 40 per cent, energy savings up to 15 per cent and maintenance cost optimisation upwards of 20 per cent."



**Sandeep Sethi**

Talking about the office automation solution, **Sathish Rajendren, COO, Facilities and Asset Management Services, Knight Frank India,**



**Sathish Rajendren**

mentions that it is a bouquet of services, like visitor management, helpdesk services, access control, meeting room booking, workplace air-conditioning control, indoor air quality, lighting control, food ordering, parking management, electronic surveillance, etc. This solution is built on the platform of digital automation using IoT and AI technologies. Automation of office services would minimise human intervention and manpower cost and make operations agile with an optimum overall operational cost. Benefits for the client include a robust office experience with an enterprise-agile workplace. People safety and wellbeing is taken care of through controlled lighting, AC and indoor air quality. And security of the workplace is enhanced through efficient visitor management systems, access control and parking management.

## Future of sustainable and green FM services

"With AI-driven and IoT-based building automation systems, FM services will play a pivotal role in supporting customers in their efforts to minimise the total environmental impact of their premises, especially in the areas of energy management, water efficiency, waste management, indoor air quality and carbon footprint," believes Sinha.

According to Rajendren, "The revolution in FM services was first brought about by automation, mechanisation and advent of technology for building management services but the next revolution in FM is and will be for



Facility management services can help in ensuring sustainability and wellbeing of the community through proper waste management.

sustainability and green services.” He adds that the focus will be on choosing sustainable materials, sustainability tools and sustainable

processes that will have a direct impact on end-user perception, preserving the local environment and supporting communities.

## Big data, IoT and remote monitoring systems for FM services

Information and communication technologies (ICTs) along with the establishment of the new paradigms of IoT and big data management are opening up innovative scenarios with respect to cognitive and decision-making processes related to the management of the built environment, shares **Ashutosh Jha, Managing Director, Orion Security Solutions**. The novel availability of information offered by these digital technologies can lead to the definition of strategies aimed at significantly reducing management costs and improving building performance and service quality. Although this potential is now widely recognised by the various operators in the sector, experimentations have not yet led to harmonisation and standardisation of procedures, processes and enabling technology applications.

By allowing facility managers to detect present trends and forecast the values of the parameters of interest, making it possible to foresee the future behaviours of building components, these new operation and maintenance strategies inform and support decision-making processes both at a strategic and operational level.

More and more software providers are now committed to innovation, making room for AI and robotics in FM. “We will also see automation features and wireless protocols that change the way we currently access our workplaces,” avers Jha. Near-field communication (NFC) technologies are already being combined with IoT networks to create an all-access pass. So, it is becoming increasingly inevitable that FM software integrates with more such software platforms and tech devices and equipment.

FM players are in demand to help companies adopt sustainable and green practices. Compliance with globally renowned certifications such as LEED, IGBC and BSC is a benchmark that define best practices, shares Lala. “From detecting the wastage of resources and energy to providing solutions on optimal utilisation and conservation of energy, FM services are regarded as the most appropriate advisors to all challenges that limit sustainability. For instance, at our Embassy Group-owned spaces alone, since 2017, we have reused over 16,20,864 kl of treated water for flushing, gardening and ancillary purposes, thereby resulting in approximately 45 per cent reduction in raw water consumption. On the energy management front, we have a solar power plant with 100 MW capacity in the Bellary district of Karnataka that supplies power to tenants across our business parks in Bengaluru.

With the continued focus on going sustainable, facility managers will undoubtedly lead the way.

- PRAHARSHI SAXENA



To share your views on the market for Facility Management, write in at [Feedback@ConstructionWorld.in](mailto:Feedback@ConstructionWorld.in)