COMMERCIAL DESIGN

Managing large-scale campuses; Harnessing the power of solar energy; A look into healthcare design trends; Automation in workspaces

Minds behind the best workspaces in India.

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The best laid plans

A LOOK AT HOW POINTS OUT HOW HINDUSTAN COCA-COLA BEVERAGES' CORPORATE OFFICE WAS DESIGNED ON THE COMPANY'S HERITAGE AND ITS EMPLOYEES NEEDS

Get smart

Wireless connectivity and automation, combined with sustainability, is shaping offices of the future

Every office owner anticipates an optimised space which functions in accordance with its inhabitants' requirements and the facility's overall function. Office automation is an emerging add-on that serves this need efficiently. While it primarily started as a data processing tool, it now includes sophisticated and complex tasks like integrating front- and back-end office systems, controlling lighting, air-conditioning, etc. With transformations in the spatial organisation of offices, the evolution of ergonomic technology has also simplified design, reduced risks as well as increased engagement.

Office automation eases the day-to-day workflow of the office. Not only does it save time but also saves additional costs by optimising the use of resources such as electricity, transport, workforce, etc. A fully automated office can be achieved by incorporating both hardware and software solutions. Mechanised operators are functional and customisable to suit every requirement; thereby making

Major goals of smart offices constitute building, space, business and communication management."

The concept of a paperless office is making way to a clutter-free and sustainable solution with the help of softwares that feed tech-savvy managers and employees with every analytical data possible. Apart from creating an improved infrastructure, optimum thermal comfort, air quality, noise levels, lighting and cleanliness also have an impact on productivity. Starting with a comprehensive view of the functions, existing resources are considered and an integrated Building Management System (BMS) is then prepared to effectively overlook energy management, HVAC, fire detection, CCTV systems, etc.

Shedding light on some of the prevalent systems that have enhanced workspace operations, HVAC, AV, lighting, security, etc, account for a huge part of energy consumption of any office building. Energy management is the key to saving costs and optimally using such resources. After monitoring the regular usage and repetitive schedules,

Prabhu Ramachandran, founder and CEO of Facilio.

Debashish Sanyal, associate professor, NIT Raipur.

facility managers analyse the basic energy needs of the commercial unit. Based on the occupancy and functional aspects, different automated controls are scheduled for different spaces. Further, the working is initiated with the help of sensors and tracks. The automated solution is flexible and error-free, which ensures a highly sensible and methodical office space.

Alok Hada, director, Anusha Technovision, explains, "Corporate offices want flexible spaces – an open-office space is transfigured into meeting rooms, break-out zones, etc. In that respect, smart lighting and smart control of various devices equips managers with the flexibility to convert spaces as per their needs." The company's Quantum Lighting Management System can be adapted to all open-office spaces, meeting rooms, cafeterias, etc; while the Hyperion shading system is an evolved, intelligent sun-shading system that takes into account not only the solar movement but also the building's orientation. To establish internal synthesis, the Crestron CP3 processor allows the integration of the equipment in boardrooms

automated systems widely accepted in commercial spaces.

An expert in this field, architect Debashish Sanyal, associate professor, NIT Raipur, states, "Smart offices recognise and reflect the technological advancements and convergence of building systems – the common elements and the additional functionality that integrated systems provide.

and meeting rooms through a seamless portal.

Sensors play an integral role in the management of commercial facilities. Current sensors are used to detect the measure and flow of current to the system and monitor the equipment with a modulating output. This helps in preventing equipment damage and downtime. CO_2 sensors are used for controlling ventilation and air-conditioning systems to maintain acceptable levels of CO_2 in the interiors. Economiser sensors control the amount of fresh outdoor air supplied to any space (these are often coupled with CO_2 sensors). Dew point sensors help in monitoring the cooling of water pipes and other cold surfaces. Temperature and pressure sensors help in maintaining a comfortable indoor environment. Occupancy sensors, as the name suggests, are used to sense occupancy and movement in different areas. These sensors regulate the working of systems only when required to prevent wastage of resources.

Aji George, director, B Square, states, "Over the period of time, office automation software and products have become an indispensable part of commercial, financial and personnel spaces. As a result new innovations are keeping up with fast-changing scenarios. Document Management Solution, Enterprise Resource Planning, Customer Relationship Management, etc, are some major innovations in the automation sector. Smart technology has been rolled out as Internet of Things (IoT) over time. IoT is changing simple offices to smart offices. Almost everything can be controlled through a simple app on smartphones – be it Wi-Fi operation, mailing or videoconferencing. Smart technology has forwarded commercial space designs to newer levels." Illustrating the contribution of technology through a case study, George shares the details of the processes implemented at one of their recently completed projects, Zep Infratech. The aim was to provide a complete automation system to facilitate all of Zep Infratech's MIS reports, maintain store inventory, finance, HR and production department. "After the successful implementation of our technology with a centralised database, Zep Infratech was able to substantially reduce manpower. The detailed management reports have

Alok Hada, director, Anusha Technovision.
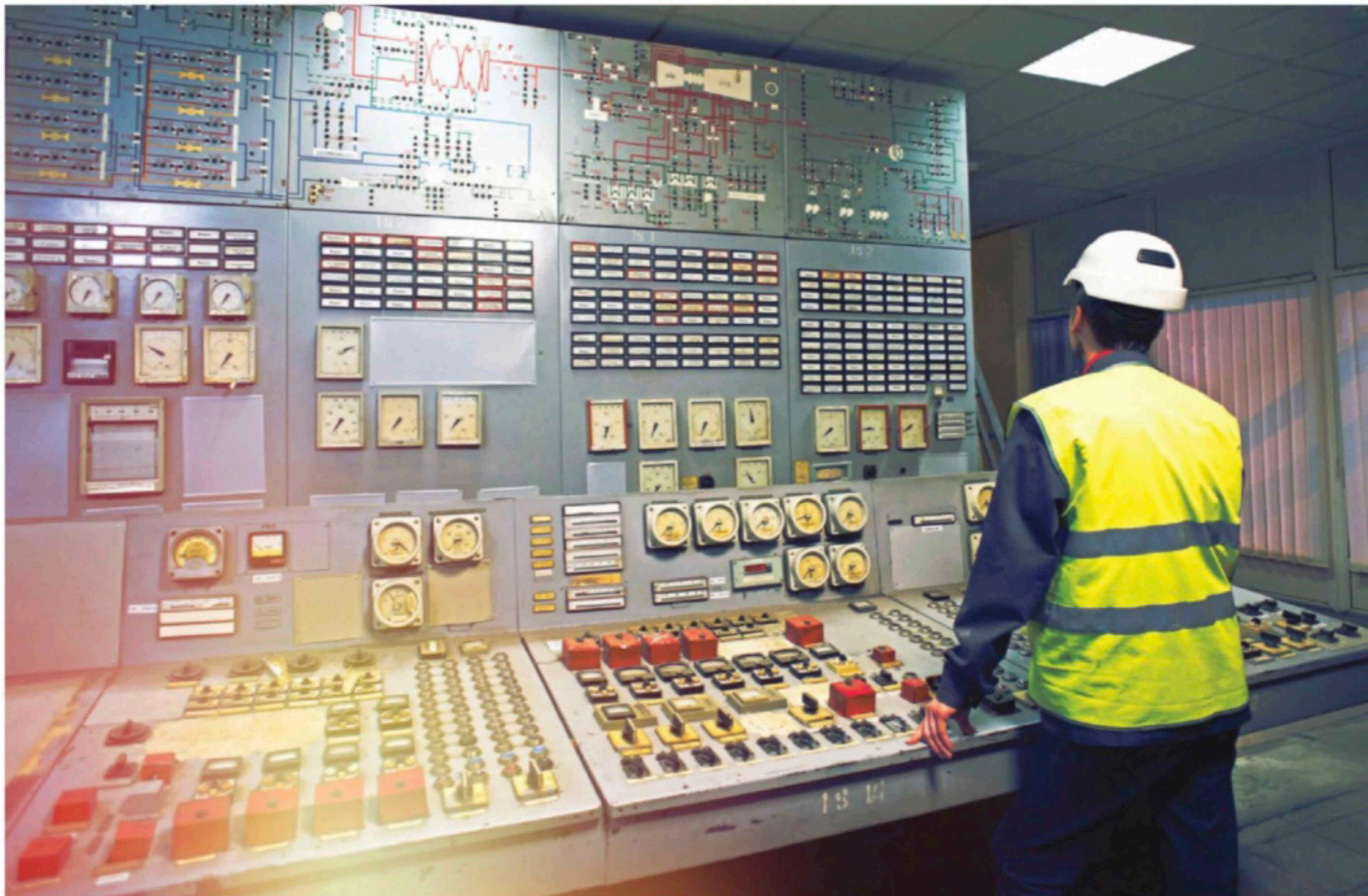
helped senior management make important decisions efficiently. The overall visibility within the organisation and processes has streamlined effectively," he says.

Automation has led to vast amounts of nascent data sitting on existing systems, with buildings owners and FM companies unaware or unable to collate and extract insights from it.

Prabhu Ramachandran, founder and CEO of Facilio Inc, gives an insight as to how his firm addresses the matter. "We digitise the whole process from measurement, waste detection and analytics, to facilities management workflow as well as the 'fix and verify' process. Ultimately, we manage this entire process in real-time, every day and continuously," he says. Asset performance is key for maintaining energy efficient buildings. He adds, "Facilio's predictive asset management capabilities, combined with energy analytics allows energy management firms, FM companies and building owners to understand consumption patterns and forecast future performance based on occupancy levels, weather, time of day, and day of week."

Facilio has a predictive energy efficiency feature that helps perceive deviations in energy usage — by identifying irregularities in usage patterns. "A thorough analysis of portfolio-wide energy consumption data is collected, as well as assisted 'fix and best practice tips' further serve as validation for investments in sustainability," states Ramachandran.

He also adds that the investment on BMS and data analytics tools ultimately results in longer building lifespans. "The goal is to ultimately extend a building's lifecycle in a sustainable manner. And in the case of refurbishments, the aforementioned products are the defining factors between
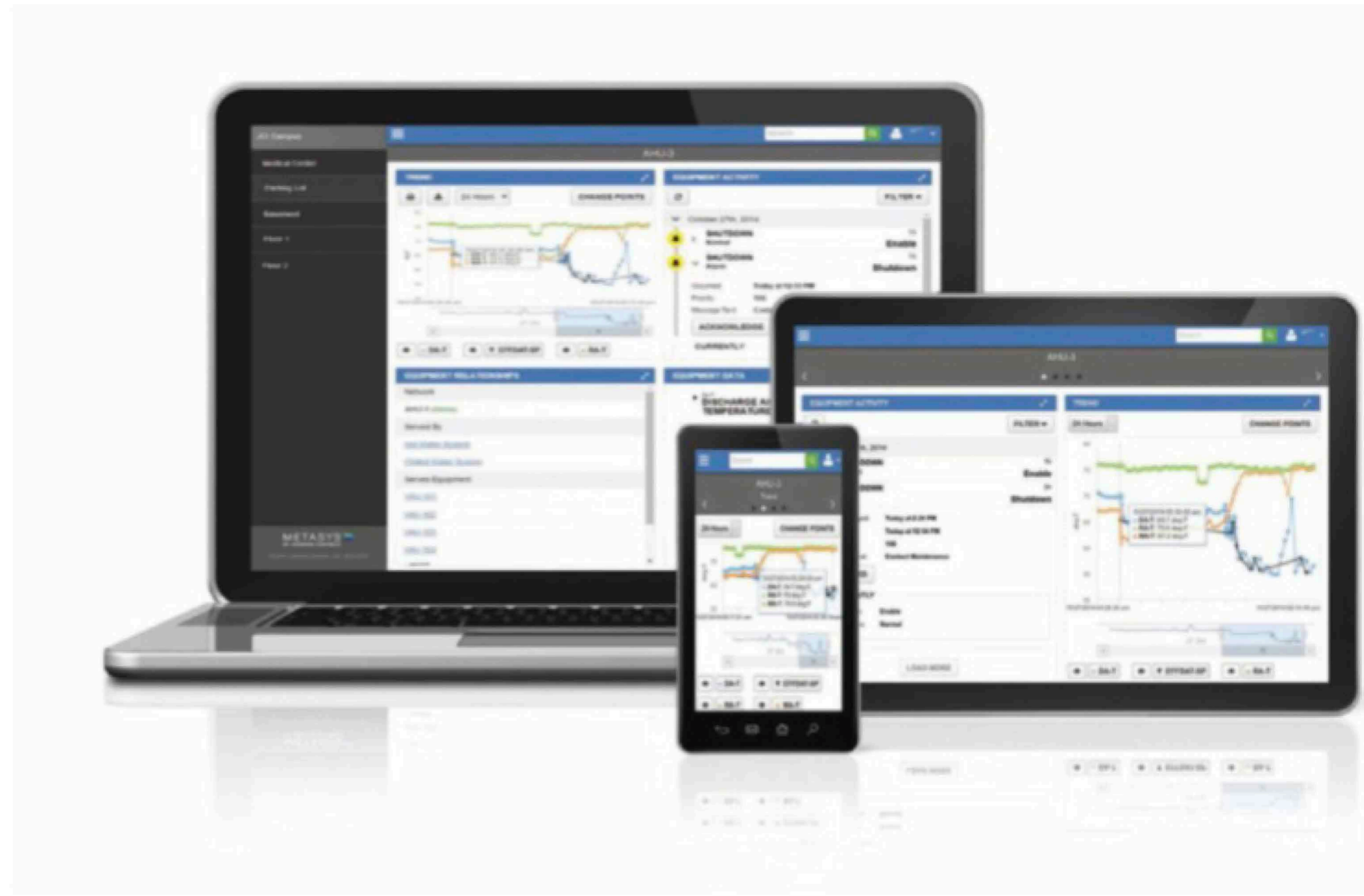
Metasys 8.0 helps monitor, manage and control the overall integrated system from a centralised dashboard.

Range of automation systems by Anusha Technovision.

a hard or soft refurb. It's not uncommon to see a building — either commercial or residential — to undergo a thorough refurbishment within a decade or 15 years since it was occupied."

Embedding sustainable practices in day-to-day building operations is one of the best ways to maintain an asset's health, while involving and engaging all FM teams, tenants and buildings owners can also lead to a lasting impact. "We facilitate this by way of modules that allow sharing relevant data metrics and progress, assessed

Aji George, director, B Square.

against established benchmarks, to keep everyone aware, and motivated to contribute to the sustainability drive," he says.

Taking engagement a step further, Facilio is also in the process of adding tenant portal applications to enable sharing energy performance information with them. "Along with energy retrofits, which include refreshing the MEP components of an asset, existing usage behaviour and computer aided facilities management can keep a building running strong for decades," Ramachandran concludes.