

Efficient office lighting can increase work performance by 20 per cent

— **Gaurav Burman**, VP & APAC President, 75F



75F, a new-generation service company, is taking a completely fresh approach by providing revolutionizing solutions in HVAC, lighting and controls for commercial buildings with the aid of IoT, cloud computing and machine learning. 75F launched its operations in India in August 2016 and is today growing steadily with leading Indian and multinational corporate in its clientele. In this interaction with T&D India, Gaurav Burman expounds on the benefits of efficient lighting in office buildings—a factor that can positively influence employee performance and drastically save on energy bills. An interaction by Venugopal Pillai.

We understand that 75F, among other things, provides IoT-based lighting control to buildings and offices. Let us start by understanding the importance of optimum lighting on workers and work efficiency.

Office lighting must satisfy a variety of needs. Beyond illumination, light in an office dictates various aspects such as occupant comfort, communication, mood, safety and aesthetics. Most importantly, good

lighting, or lack thereof, has far reaching effects on employee health, well-being and productivity.

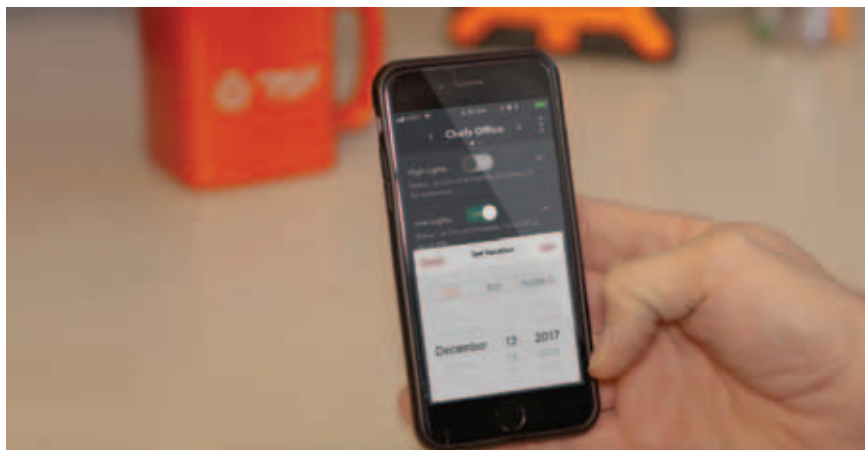
Some of the effects are apparent; poor visibility, glare, flicker, etc. cause eye strain and may lead to headaches impacting task performance. But that's just the tip of the iceberg. Did you know lighting also has a significant influence on our circadian rhythm, which contributes to several important biological functions?

Can these parameters be quantified?

According to multiple studies, employees working in efficiently-lit workplaces experienced a 37 per cent increase in concentration, a 30 per cent reduction in fatigue and a 20 per cent increase in work performance. They slept an average of 46 minutes more each night and the companies noticed a 15 per cent reduction in absenteeism.

Optimal lighting also improves operational efficiency in a building, resulting in savings of up to 60 per cent on lighting energy bills.

Worker controlled lighting and lighting solutions tailored to the individual needs of workers have considerable potential for enhancing employees' work satisfaction and enhancing retention. This may be particularly important in the case of professional workers that employers would most like to attract and retain. The International WELL Building Institute also understands the importance of lighting on occupant





well-being, and recognizes our system's capability to improve occupant health and well-being.

Please tell us in some detail about how this lighting control works.

75F's Advanced Lighting System is dynamic, catering to more than just turning on/off the lights or scheduling. 75F's smart devices can control commercial dimmers, integrate photocells and overrides. Integration with our smart sensors further allows the system to react to triggers such as weather, daylight and occupancy.

The solution includes a complete system to add multi-zone control for lighting in fixtures to any facility. 75F's Advanced Lighting system considers many factors about the building such as weather forecasts and location of the building along with real-time factors such as occupancy, scheduling, user preferences, etc before determining the ideal time to adjust the lighting gradually. 75F system also offers daylight harvesting solution thereby taking advantage of natural daylight where available to offset the amount of energy needed to properly light a space and accordingly reduce wastage. The system automatically dims down or turns off lights in zones where and when natural daylight is available all the while ensuring that

the pre-set lux levels are always maintained.

75F launched its India operations in 2016. How has the journey been so far?

75F is a fast-growing startup, expecting to grow by triple digits this year too. Since 75F launched its operations in India we have expanded our product portfolio, entered new markets, and have started serving new verticals.

Across sectors and verticals, facility managers have been very positive towards our solution. Indian facility managers are increasingly becoming energy conscious while at the same time prioritizing occupant comfort and safety. Customers see value in investing in a truly predictive, proactive and self-learning solution that drives away inefficiencies while increasing their bottom line.

Can you provide some key references in India?

75F today caters to an exciting lot of customers representing large and small enterprises that are looking for more efficiency, comfort and power at their fingertips. With over 2 million sqft under management and a happy clientele that includes brands like Firstsource Solutions, Flipkart, Bennett-Coleman Group, L&T Infotech, Shell, HP, ADAMAS

Builders, and Mercedes Benz to name a few, we are very optimistic about our continued growth in India.

Please discuss does IoT-based lighting control improves energy efficiency? By how much (in broad percentage) can existing electricity bills be reduced?

On average, half of a commercial real estate building's energy costs are directly tied to their HVAC and lighting. Unfortunately, most traditional automation systems are reactive, rather than proactive. As a result, they work harder, not smarter and are more expensive to run and maintain. 75F's smart Building Intelligence System helps buildings cut costs where it matters and get a full return on investment (ROI) in as little as three years.

A system like 75F's IoT-based lighting automation can reduce up to 60 per cent on lighting energy consumption. In many commercial buildings, manual lighting control results in much energy wastage, for instance when there is no occupancy or when artificial light is used to light spaces with enough natural light.

Beyond just motion detection, our sensors understand and analyse various factors such as location, weather and occupancy and optimise the lighting system to ensure energy efficiency and savings. With 75F's Facilisight, a suite of web and mobile-based apps, the facility manager has visibility and remote manageability, allowing him to continuously monitor and control lux levels and energy consumption in one or many facilities simultaneously, using his mobile phone/tablet or computer.

We presume that the capital cost of the lighting control is recovered tangibly through energy savings and intangibly through improved productivity of workers. Is there a typical payback period?

Our solutions are dynamic and



are tailor-made for each client, depending upon the needs and conditions of the site. But unlike other energy management systems for HVAC and lighting, our solutions are not intrusive and can be installed without any kind of disruption to the normal functioning of the employees. Our solutions are preconfigured, modular and wireless allowing for an 80 per cent faster installation process than other competitors making it cost and time effective. The fast installation process, almost immediate savings on energy, improvements in productivity and cost reduction due to automation means significant savings for our customers. Based on energy savings alone, the ROI is less than three years.

We presume that most of your contracts are retrofitting jobs in functional buildings. What are the challenges faced during retrofitting?

75F's solutions are easily installed and do not cause any disruption to the day to day work of the occupants/employees. Our technicians and engineers ensure that the installation process is quick and non-intrusive. Being a retrofit friendly, wireless and pre-configured solution, installation is a quick and trouble-free.

Do you also promote your lighting solutions to new (under construction) projects?

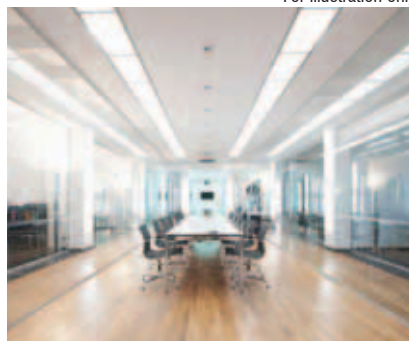
Yes, we work with both greenfield and existing buildings.

We understand that 75F lighting control solutions can even be customized. Tell us more.

Our solutions are customized to fit the needs of the client and the building. After a thorough site-survey, our experts determine which of our solutions would be right fit and accordingly customize it for the client. For example, a building that does not get much natural light wouldn't need daylight harvesting, which is a part of our lighting solutions. We instead offer a human-centric lighting solution.

How does lighting control complement 75F's other services like airflow balancing and indoor air quality?

For illustration only



75F's Advanced Lighting solution is part of the 75F integrated suite for building intelligence. All our solutions work together to create a comfortable and energy-efficient workplace. Our smart sensors are continuously assessing various factors like lux levels, occupancy, indoor air quality, temperature, CO₂ levels etc. This data is analyzed by our smart algorithms which in turn lets our control systems automatically change the settings for optimum comfort and energy efficiency.

The system also provides a holistic environmental control to the facility manager and the building occupants to determine the temperature and lux levels for specific zones with the 75F Facilisight and Occupant App.

In India, building lighting accounts for 20 per cent of the country's total electricity consumption. Given this, how do you see the potential for 75F's lighting control solutions?

Lighting energy consumption in India is high primarily because of energy wastage. With an intuitive and predictive solution like ours, facility managers can improve occupant experience and save significantly on their electricity bills. Further, as demand for energy keeps increasing, the government has been introducing new protocols and mandates to reduce energy wastage. "Smart Buildings" is a buzzword now as climate change and global warming have made their effects noticeable. Companies are looking to be more energy efficient, not just for energy savings but because they have become environmentally conscious.

Indian facility managers are looking for automation, comfort and energy savings. And our intuitive solution translates to high savings and improved comfort. The potential therefore is vast and opportunities are endless as 75F can fulfill all these needs! ■