



New approach to Energy Management and Optimum Productivity

Founded in 2012 and headquartered in Minneapolis, USA, **75F** is a Building Intelligence Solutions provider that leverages Internet of Things (IoT) and cloud computing to predict, monitor and proactively manage various elements in a commercial building including its temperature, lighting, air quality and its energy management needs. **Gaurav Burman, the VP & Country President of 75F India** tells *Buildotech* that with factors like climate change, increasing air pollution in India and the changing demands of millennial workforce, there is no greater time than now to challenge the status quo.

75F has introduced a new approach to HVAC management especially in the commercial space. Can you elaborate on the design and technology of your Dynamic Airflow Balancing system?

The System leverages Applied IoT and Cloud Computing to understand a building's ever-changing needs, and proactively caters to them to ensure that the occupants are comfortable while saving up to 50% on HVAC and lighting energy.

Zone sensors and Wireless Zone Controllers collect hundreds of data points from the room every minute and send the data to the Central Control Unit & from there to the servers in the Cloud, where smart algorithms and efficient cloud processing analyze and understand them to build a thermal envelope of the building. Each night the algorithms analyse thousands of data points, including the weather forecast & daily usage patterns that allow the system to predict future conditions. Post which, a new set of instructions are sent to the Central Control Unit and the motorised dampers are modulated a few degrees at a time to achieve the

perfect balance. The Advanced lighting solution also factors in real-time events, such as room occupancy, scheduling, user preferences, the position of the sun and weather patterns to make continuous adjustments to the plan as needed. By combining insights from real time data obtained from our sensors, the system can adopt a customized strategy that will lead to maximum energy savings and occupant comfort.

What are the advantages of the Solution? How is it different from the conventional HVAC systems?

We summarize the benefits as improving (OE)² i.e. we help buildings sense, learn and work smarter to deliver the optimal Occupant Experience (OE) x Operational Efficiency (OE).

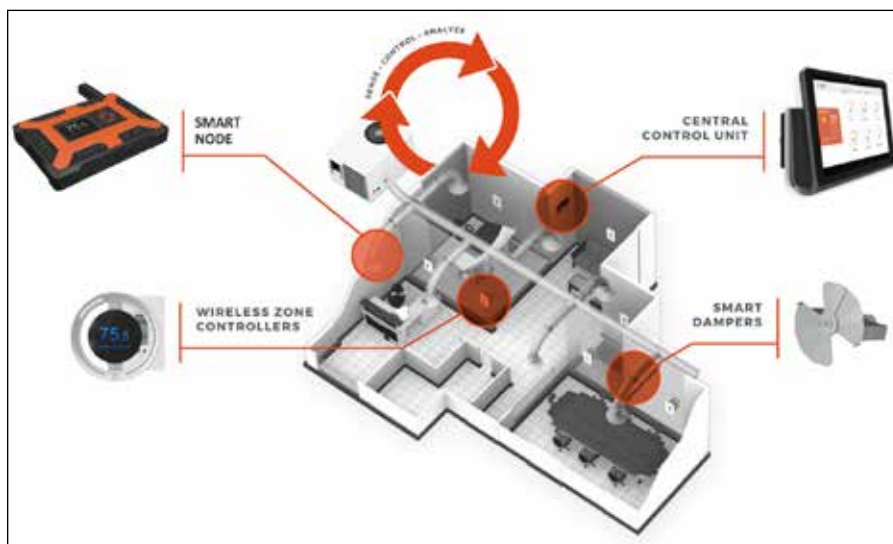
Operational Efficiency: The solution reduces OpEx costs with quick, non-disruptive installs, up to 50% energy savings, predictive & proactive maintenance and automation. Our retrofit smart-building technology with IoT sensors and predictive controls can make buildings work smarter.

Starting with the installation process, 75F Building Solutions are affordable, fast and easy to install meaning that installations are non-intrusive. The wireless controls significantly reduce the time taken to install and are retrofit friendly. The customers don't need to hire a control specialist to manage the system since we offer an intuitive software-defined hardware configuration that does not require programming.

Another benefit offered by the 75F solution is its predictive environment management system. With its cloud-based algorithm, it uses the data collected from sensors and weather forecasts, occupancy patterns and effectively learns the building patterns. Being a self-optimising system, it adjusts the settings proactively based on these learnings.

What's more, it offers remote monitoring and management capabilities through the 75F Facilisight, a suite of vertically integrated mobile and web-based apps. The solution eliminates the need for on-site servers, storage and networking hardware purchasers and therefore cuts down on IT OpEx cost.

75F stands for 75 Fahrenheit, which was set by the United Nations in 2008 as the optimum temperature in all its offices worldwide. Inspired by this, 75F seeks to deliver optimal comfort while saving maximum energy.



Occupant Experience: Our solutions help improve indoor air quality and add to employee productivity. The Occupant App also empowers occupants by giving them the option to change settings for their individual zones and submit feedback to facility managers through the mobile app. The combination of the above two is what we call OE².

The customers can

- Increase employee productivity (social)
- Reduce energy usage (environment)
- Increase profit

Dynamic Airflow Balancing(DAB) solution achieves a perfect thermal balance all the time through continuous commissioning. We build a vast data model by ingesting over a million data points every day per site. Proprietary algorithms analyze and combine the data with weather forecasts in order to send the optimal control strategy to the Central Control Unit, which sends instructions to incrementally move smart dampers a few degrees at a time, creating even temperatures throughout the building.

The System's design is fine-grained, so that every zone gets its own sensors, controllers and analytics. This technique leads to optimal occupant comfort that puts an end to hotspots and coldspots. It also saves about 50% of the utility cost, since we only direct air to the load and not to spaces that don't need it. Since we use live data feeds to measure outside enthalpy and sensors in the building to calculate indoor enthalpy and understand both of these, we are able to provide superior free cooling when the conditions are right. We monitor CO₂ levels and bring in fresh air from outside to ensure optimal conditions.

The facility managers are benefited as the system learns the building's patterns over time and is able to predict the best strategy for the next day,

effectively minimising the work of the facility team and maximising the occupancy comfort levels. Thus, the facility manager benefits in the following ways: Energy Savings, Ease of operation through automation, Remote control and manageability, non-intrusive installation and quick ROI as low as three years.

The company provides multi-site visibility and insights on lighting and HVAC energy consumption, intensity and costs with 75F Portfolio Energy Manager, part of the Facilisight cloud-based software suite, a futuristic energy management tool with a dynamic UI. Facilisight's suite of web and mobile apps allow customers to manage temperature and lighting remotely and round the clock.

A US company, 75F started operations in 2016 in India. How far have you been able to penetrate the market?

When we launched operations in India in August 2016, we started by focusing on a few key verticals such as IT/ITeS, Healthcare and Hospitality in the four major metros. Today, we are fast growing start-up, expecting a triple digit growth this year. Over the past two years, we have grown our portfolio, entered new markets and have started serving new verticals. We have over 1.2 Mn square feet under management and our clientele includes brand such as Firstsource Solutions, Flipkart, Bennett-Coleman Group, L&T Infotech, Mercedes Benz and Mapletree. We see more avenues and lucrative business verticals such as SMEs, BFSI, Co-working spaces and retail.

Globally. In the last five years alone, the company has notched up several customers including popular brands like Border Foods, Magnet 360, Rockler and Yoga Fit in the US and has created many energy-efficient and intelligent buildings in the process. Very recently, 75F has expanded to serve the Middle East and Singapore markets as well.