

MAPLETREE (ADAMAS BUILDERS)

CASE STUDY

IMPROVING OCCUPANT COMFORT & OPERATIONAL EFFICIENCY AT A STATE-OF-THE-ART FACILITY



We are very impressed with 75F's solution. We see a marked improvement in occupant comfort and temperatures are now consistent across the facility. 75F's solution also delivered higher than expected energy savings in our already sustainable, LEED Gold certified facility.

K. M Mohan | Facilities Head



THE CHALLENGE

MapleTree Investments Pte Ltd has built a strong reputation for developing internationally-recognised and award-winning real estate solutions. With over S\$46.3 billion worth office, retail, logistics, industrial, residential, corporate housing / serviced apartment, and student accommodation properties being owned and managed by MapleTree, it's known for facilities that are built on innovation in design, planning and execution excellence.

Testimony to this is MapleTree's 13-acre Global Technology Park in Bangalore and its own office within this Tech Park. The occupants of this state-of-the-art office, however, often complained of feeling either too hot or too cold in the office. The facility team at MapleTree was keen to find a permanent resolution to the hotspots and cold spots. At the same time, they were also looking for an HVAC and lighting automation solution that would simplify their lives.

During its site survey, 75F identified airflow imbalance at the site and also that energy was being wasted by cooling unoccupied areas. The lack of visibility into AHU, Chiller and lighting systems meant no monitoring and control of HVAC and lighting energy consumption.

AT A GLANCE

Location	Global Technology Park, Bangalore
Project	Dynamic Airflow Balancing + Dynamic Chilled Water Balancing + Advanced Lighting Solution
Square Footage	5,000
Installed Units	1 Nos. AHU + VFD & 1 Nos Chiller (400 Tr x 3 Water cooled + 350 Tr x 4 Air cooled)
Previous Conditions	AHU VFD running at 35 Hz constantly Actuator setpoints changed manually No BMS or VAVs No automation for lighting

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THE 75F SOLUTION

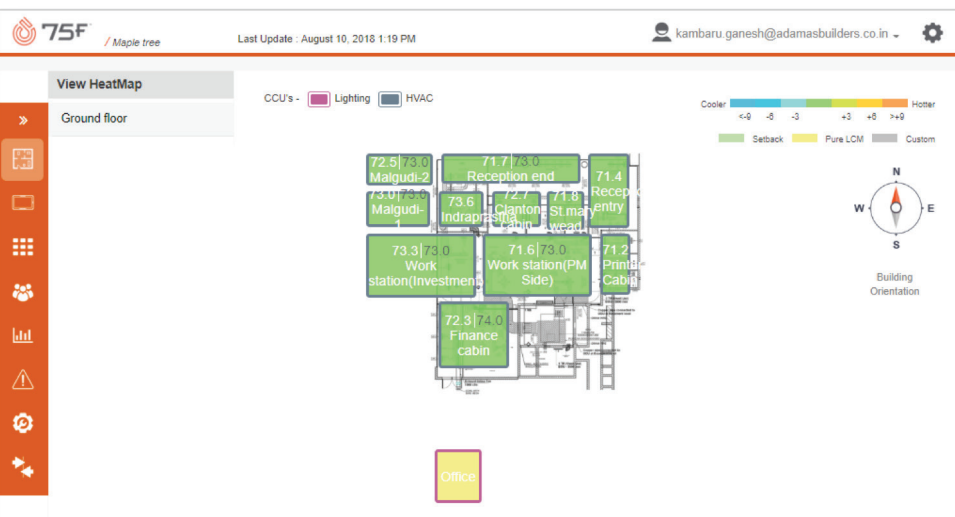
75F conducted a thorough site survey to understand the building and the occupant requirements and accordingly installed the following solutions at MapleTree office:

Dynamic Airflow Balancing Solution: 75F installed 15 Wireless Room Modules 22 Smart Dampers and 1 Central Control Unit (CCU) in the office. Sensors take a snapshot each minute to build a vast empirical model which is analyzed using smart algorithms. Data is wirelessly transmitted back to smart dampers, which make proactive adjustments throughout the day to regulate temperature.

Dynamic Chilled Water Balancing Solution: 75F controls the chilled water flow using actuators to drive energy savings and ensure that the setpoint temperature is always met.

Advanced Lighting Solution: 75F's advanced system considers various factors about the office including the weather, occupant preferences and occupancy patterns before adjusting the lighting- so the lux levels are always optimal and MapleTree saves on energy during unoccupied hours.

75F Facilisight: With the Facilisight app, the MapleTree facility manager receives the required insights for optimum operation and preventive maintenance.



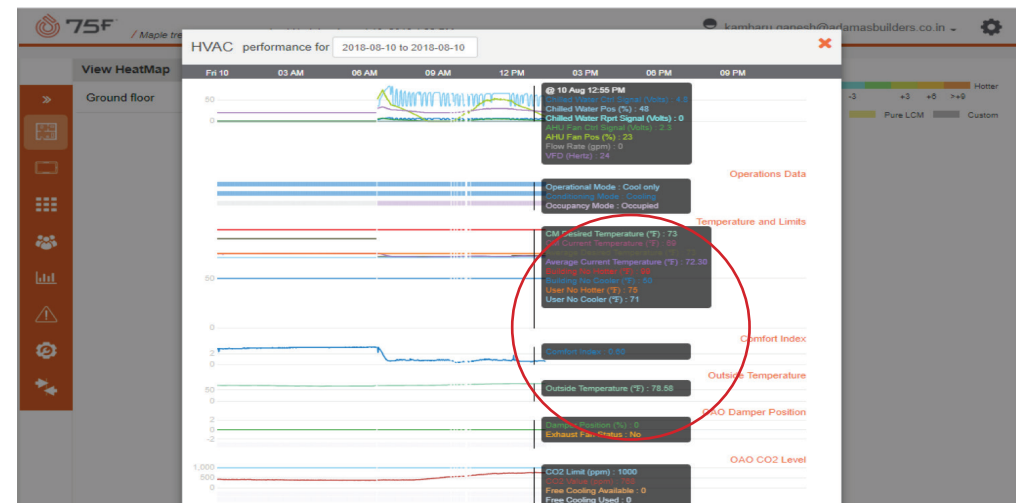
75F optimised occupant comfort at MapleTree by dynamically balancing the airflow and controlling the chilled water flow.

THE RESULT

75F solution at MapleTree has delivered over **19.5% savings** on the HVAC and lighting energy bills each month. At the same time, the employees at MapleTree no longer complain about feeling too hot or too cold as temperatures are now consistent across the office.

Thanks to the automation of the entire HVAC and Lighting system at MapleTree, the facility management team has also noticed a marked improvement in their operational efficiencies; reducing their time spent on responding to employee complaints and improving the team's productivity. Facilisight has provided the facility team with greater insight and control over the HVAC system in the facility and they are able to monitor and control energy usage in real-time.

In effect, both the facility managers and employees are enjoying how the 75F solution drives efficiency while maximizing comfort.



The 75F Solution consistently maintains a Comfort Index of <math>< 2</math> i.e. at any given point the temperatures across zones at MapleTree only vary between

One benefit that has truly made our lives simpler is Facilisight. In an instant, I can look up and control all aspects of my facility right from my mobile phone.

Ganesh Kambaru | Associate Director - Facilities