

SMART HVAC

POWERED BY ACETEL



Redefining Indoor Air Quality

After globally operating successfully for 10 years, earning a respectful reputation amongst its clients and the industry, ACETEL broadens its horizons. ACETEL, along with its diverse products and services in the IT and HVAC industry is introducing a more Smart, Efficient, Proactive and Information Technology (IT) based Indoor Air Quality & Environmental Monitoring Solution, **smarthVAC**.

The **smarthVAC** solution targets key indoor environmental concern factors, such as, Indoor Air Quality (IAQ), Humidity, Air-Flow, Dust and Hazardous Gases in Commercial, Professional and Personal Establishments. The solution provides a Monitoring and Reporting system resulting in Cleaner, Healthier and Economical Indoor Building Environment ,as well as identifying the key factors that impact the HVAC solution within a building.

ACETEL's smarthVAC solution has the capabilities to monitor a wide variety of essential HVAC parameters such as:

 Carbon Monoxide

 Carbon dioxide

 Air Quality

 Radon

 Dust

 Temperature

 Humidity

 Air Flow

 HVAC Efficiency

The solution can be deployed across various establishments such as:



Commercial Buildings



IT Data Centers



Hospitals



Schools

smarthVAC operates on a Secure Cloud based Platform, in-line with today's IoT technologies and Sensor Data is communicated securely via the various Wireless and Mobile Technologies.



Air Quality Environment in **Commercial Buildings**

Inadequate Ventilation and Dangerous Gases within Commercial Buildings is becoming a major concern. It seriously impacts the Health, Comfort, Well-Being and Productivity of building occupants due to the long working hours spent indoors. Building Design Regulations are increasingly advising Consultants and Architects to ensure that Indoor Air Quality (IAQ) is addressed and that the buildings comply to the industry IAQ regulations.

The **smartHVAC** solution enables buildings and facilities owners to effectively monitor and respond to the IAQ Environment using the latest Sensor and Wireless Technologies. The **smartHVAC** Solution enables building operators to consistently monitor the HVAC Air-Quality Environment and provide Real-time Statistics and Notifications. The solution is also in-line with the latest technologies being used within the IT industry and building IAQ statistics are transmitted through secure and wireless technologies.

The **smartHVAC** Efficiency Module monitors the power consumption of the HVAC equipment. This provides vital feedback which enables the client to analyse the cost of running the HVAC systems. It also helps in evaluating, the financial impact caused by the ventilation systems.





Air Quality Environment within IT Data Centres

In today's hi-paced, hi-tech IT industry and the growth of Cloud Computing, the Data Centres play a key role in the housing of critical IT infrastructure within all types of business establishments and its becoming vital to have the data centre equipment operational 24x7, 365 days a year. Therefore, HVAC systems are as important for humans as they are for machines. Adequate Ventilation systems are essential for the well-being of IT equipment. Fluctuating Temperatures, Humidity, Dust, are of critical concern for data centres.

The **smartHVAC** solution provides Data Centre managers and operators to consistently monitor the HVAC Air-Quality and Ventilation Environment and provide real-time statistics and notifications. The solution is also in-line with the latest technologies being used within the IT industry and Data Centre statistics can be transmitted through the latest secure and wireless technologies.

The **smartHVAC** Efficiency module monitors the power consumption of the HVAC equipment and provides data on the power consumption and cost of running the HVAC systems. This provides vital feedback on the financial impact of running the HVAC systems within the data centres.



TEMPERATURE
HUMIDITY



Air Quality in Hospitals, Laboratories and Clinics

Ventilation Systems play an integral role in Medical Establishments. Their Monitoring and Controlling is a crucial aspect of the establishments well-being. Undesired changes in Humidity, Fluctuation in Temperature, Inadequate Air Circulation can cause serious consequences, such as airborne diseases, patients health, medicine quality, to name a few.

smarthVAC solution monitors the ventilation system and ensures that the Air-Flow and Indoor Air-Quality (IAQ) are as per the industry requirements and to act promptly & effectively in Emergency situations and to ensure optimal performance of the HVAC environment.

Special HEPA Filters are required in the Medical Establishments in order to ensure Clean Air-Flow in the buildings and the **smarthVAC** solution can monitor this in real-time and provide real-time notifications on the status of the ventilation systems. This also allows for proactive maintenance of Operation Theatres, ICUs, Laboratories and hence reduce maintenance costs in the long run.



AIR QUALITY



Indoor Air Quality in Educational Institutions

Health and Safety is becoming high priority amongst Schools, Universities and other Educational facilities. The long hours spent by students in schools make it even more important to monitor Indoor Air Quality. Government authorities are taking the initiative to ensure the learning environment is favourable for both the students and teachers.

Having adequate Indoor Air Quality (IAQ) levels around Children, Students & Teachers is vital for their wellbeing and concentration levels. Study and Research by several institutes such as ASHREA and WHO have indicated that IAQ plays a significant part in their general state of health.

smarthVAC monitors the educational institutions HVAC systems to identify inadequate Indoor Air Quality levels, such as Carbon Monoxide, Humidity, Temperature and other harmful gases. The IAQ is Monitored and Reported in real time. This enables the institutions to act immediately and take appropriate actions to ensure the right level of IAQ are maintained.

smarthVAC monitors Air Quality to ensure Health and Safety as per required standards.



AIR QUALITY
CARBON MONOXIDE





smartHVAC Solution Overview

The **smartHVAC** Solution is an IoT based Flexible, Reliable and Secure Solution. The Sensor Zone is based on industry standard sensor devices with the capability of communicating securely and using the latest Wireless & Mobile technologies. The Solution Zone is built on a secure and redundant cloud platform maintained through the ACETEL Solution Operation Centre (SOC) in Europe and Middle East. The GUI Zone provides state of the art Graphical User Interface on various Computing Devices such as Desktops, Laptops, Tablets & Mobile, hence allowing a flexible Monitoring and Reporting capability for the end-user.



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