



Audax Labs' IoT solution for HVAC helps to monitor and maintain industrial HVAC systems with higher efficiency.

Overview

Connected systems are the future of industrial sites. The benefits these systems offer are enormous. They enable remote operations, increase efficiency and create sustainability. With connected systems and intelligent monitoring tools, operations teams can identify faults before they occur and enable preventative action. More importantly, such systems will usher in the era of connected factories, smart buildings and smart cities. Internet of Things (IoT) is the technology used to develop the applications that connects physical objects to the internet – creating a hyperconnected networks of things. Audax Labs’ industrial IoT solution for HVAC maintenance helps in monitoring and servicing HVAC systems remotely.

Benefits

Audax Labs’ industrial IoT solution for HVAC systems runs on Microsoft’s Azure cloud, ensuring 99.99% uptime, and the application can monitor HVAC units and help users know HVAC health at any point in time. This system addresses critical needs of an HVAC system maintenance such as:

- **Maintenance Cost Reduction** - Most businesses use more than one HVAC system on their premises. Maintaining one unit at a time would be a time consuming and costly affair at the same time.
- **Remote Operation Capability** – HVAC systems are the most heavily-used equipment in any commercial building. Giving the owners/operators remote operation capability would ease out the administration and operation of HVACs.
- **Monitor Units Per Client** – Many businesses have more than one HVAC systems. Monitoring all these systems will help in servicing all of them proactively in one visit. This allows technicians to avoid multiple visits to the same office.

IoT-Based Solution

Audax Labs’ IoT-based platform to help HVAC systems maintenance vendors to reduce maintenance cost and improve service quality. This solution helps connect different HVAC systems to a cloud-based interface. There are various features built into these connected systems that serve different critical purposes for preventative maintained and servicing:

- **Web application showing real-time data** – A web-based application is created to fetch real-time data on an HVAC system. This helps in monitoring the health of HVAC systems and service them when the need arises. A mobile app with the same capabilities delivers mobile-ready content for a mobilized experience.
- **Windows utility for setup** – A Windows-based utility helps to setup the IoT devices on HVAC systems. This helps connect various HVAC systems with users and then provide different users with different functionalities.
- **Data transmission between HVAC and Azure cloud** – The solution enables HVAC systems to receive and send data to Azure cloud, helping the makers improve their component quality in spares and new products.

- **Remote on/off** – Using IoT, the HVAC systems can be turned on or off remotely. This helps reduce the dependency on the remote control supplied with the account. Users can turn the HVAC system on their way to office premises to be greeted by pleasantly cooled/warmed space.
- **Display readouts** – Audax Labs' solution provides users with readouts for indoor and outdoor temperature, humidity, and air flow. Users can locate their HVAC systems to remotely check their status and arrange for a technician's visit, if needed, for multiple units at once.
- **Provision for warning messages** – A provision for warning messages is created that can flash error messages on a user's device to help them know if a system begins malfunctioning.

Benefits

IoT provided following benefits to Predictable Technology:

- **Maintenance cost reduction** – HVAC makers can correctly identify the cause of malfunction and fix it in the first technician visit itself, reducing maintenance costs (reduced technician visits brought costs down too). Moreover, multiple systems can be fixed in one visit as technicians know the number of HVAC systems a customer is using and can fix all of them in one go, if needed.
- **Better service quality** – Technicians can predict any issues that can potentially damage an HVAC system in future and fix it beforehand. This reduces the systems' downtime and increase their uptime.
- **Data collection** – Vital data can be collected about different components' functioning and their quality can be improved when they're being serviced. These benefits also improve new systems that companies introduce in the in future.
- **Customers monitoring** – Customers can schedule technician visits as and when required. They can also better use these HVAC systems as these can be operated remotely.

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About Audax Labs

Audax Labs offers Application Services, Product Engineering, and solutions for transformative digital technologies including IOT, AI, AR and VR.