SmartWatt Weekly

Episode 5 - IOT & Energy Management

The world's buildings are substantial consumers of energy. Residential buildings alone account for 40% of energy use. Commercial buildings, such as offices, retail stores, schools, hospitals, shopping malls, and hotels use approximately 30% of energy resources on average. Industrial sites on average consume the remaining 30%.

With the growing number of energy regulations and authorizations, the demand to reduce energy consumption and greenhouse gas emissions as well as the business need to combat rising energy costs energy efficiency has become an important aspect of building management.

This trend has reserved the global building energy management systems industry to reach $9.32 billion by 2023. Furthermore, advances in Internet of Things (IoT) technologies will further fuel and change the industry through smart building energy management systems. Below are three ways smart technology is enhancing how buildings are managed efficiently:

1. IoT Sensors Provide Better Data for More Effective Energy Efficiency Strategies

Smart building energy management systems built on IoT technology have become the nucleus of smart buildings. They go beyond more traditional building management systems that monitor and control a building's power-source systems. Instead, these systems use IoT sensors to collect, analyze and translate energy data into information that can be sliced and diced to make educated, actionable decisions that will improve energy efficiency.

Dynamic data on energy consumption can be combined with various connected sensors and devices that collect data on local weather, street traffic and more, helping building managers automatically adjust building temperature, ventilation, and lighting. HVAC and other systems can be optimized for energy savings without sacrificing comfort for those working or living within the building. Such steps can return a 25% reduction in operating costs. Moreover, EDGE analytics process data at the source, which is significant for many reasons, including the fact that the plethora of data being transmitted to a central hub is cumbersome, costly and poses cyber security threats.

2. Smart System Data is Improving Business-Level Decisions

Backed by connected technologies, smart building energy management systems can integrate data collected and analyzed from the building's energy-based assets into larger enterprise systems and infrastructures. In turn, the data can be used to help organizations make intelligent business decisions that can create process and cost efficiencies that go beyond energy.

3. Connected Devices Are Expanding Energy Management

Our world of connected devices and sensors is expanding building systems and enterprise assets beyond the traditional definition of energy. This includes a wide range of building systems from smoke alarms, security cameras, motion detectors and secured entrances. Connecting these components to a smart building energy management system with IoT devices not only expands the range of management systems, but it also increases the potential for energy savings.