Smart Axiom

Security-as-a-Service

INTERNET OF THINGS:
Smart Building Case Study:

Buildings are complex electrical and mechanical ecosystems. Engineering and maintenance staff work around the clock, monitoring and managing multiple systems that control everything from lighting, temperatures, and air quality to elevators, security, and communications. Not surprisingly, buildings devour power. Operators of existing buildings are looking for ways to conserve energy for both environmental and economic reasons. Architects and builders, meanwhile, are trying to make new buildings as "green" as possible.

Extending today's building automation through intelligence, security, modularity, and intuitive interfaces that allow autonomous operations, smart buildings and facilities have the potential to transform our living and work experiences. The Internet of Things (IoT) promises more opportunities for intelligent automation in the built environment, delivering such benefits as the following:

Energy savings: Integrated with the smart energy grid, smart buildings and homes represent a huge opportunity to reduce power consumption by businesses and families. Power providers can take advantage of efficiencies based on the schedules and usage patterns of building inhabitants. Smart power meters and appliances will communicate with intelligent power sources to help balance supply and demand. Green buildings, LEED certification, and net-zero energy consumption will become increasingly commonplace.

Remote monitoring and control: Building operators and residential consumers will be able to monitor utility consumption and control heating, lighting, safety, and security systems from offsite. For commercial buildings, that means being able to monitor multiple properties from a centralized property management location, communicate to onsite maintenance crews, and take control of systems in a fire or other emergency.

Predictive maintenance: Sensors in a building's mechanical components will alert engineers when a part needs attention, reducing the time and labor costs associated with routine inspections and preventive maintenance.

Assisted living: As our societies' demographics change, with populations aging and life spans extending, the modern building will need to support independent living at older ages. With sensors, controllers, and intelligence, smart buildings can provide telemedical solutions or other technical assistance for aging people, enabling true ambient assisted living.

Addressing Challenges

Security: Connecting buildings and home via IoT raises security and data privacy, which are already rising in importance given increased vulnerabilities to attacks, espionage and data breaches, are driven by increased connectivity and data sharing. This requires a decentralized horizontal security approach at the device, operation and transport levels. Security must be integrated into every device from the initial design phase, through to the hardware and operating systems.

Interoperability: A lack of interoperability among existing building devices and systems significantly increases complexity and costs in industrial internet deployments. Today's building operational technology systems work largely in silos. However, in the future, a fully functional digital ecosystem will require seamless data sharing between building

The drive towards seamless interoperability will be further complicated by the long-life span of building equipment, which will require costly retrofitting or replacement work to adapt with the latest technologies.

Safety: Devices that control smart home and building must have built-in safeguards to prevent authorized access to network and could ascertain when residents are not at home, or tamper with the security systems of buildings to gain illegal entry. Systems that were not connected before need to be migrated securely to interconnected networks. This can be accomplished by building secure Internet gateways that enable cloud-based central control systems to collect local intelligence data from the systems while blocking attacks.

Smart Axiom Solutions

Smart Axiom is an innovative emerging company providing unmatched IoT products and solutions for Smart Building and Home, and the only company delivering a Blockchain solution powered by decentralized, peer-to-peer communications and no-single failure automated systems.

Smart Axiom provides the IoT systems and software that deliver the underlying intelligence—including decentralized networks and Blockchain security functionality— enabling smart manufacturing networks and devices to perform safely and reliably. This Intelligent Device Platform enables developers of industrial applications to jump-start development, with pre-configured software components.

Smart Axiom's decentralized horizontal security and IoT platform delivers underlying intelligence—including Blockchain security and context-aware features—enabling smart manufacturing networks and devices to perform safely and reliably. The Intelligent Device Platform enables developers of industrial applications to jump-start development, with pre-configured software components leveraging Smart Axiom's innovative industrial manufacturing solution.