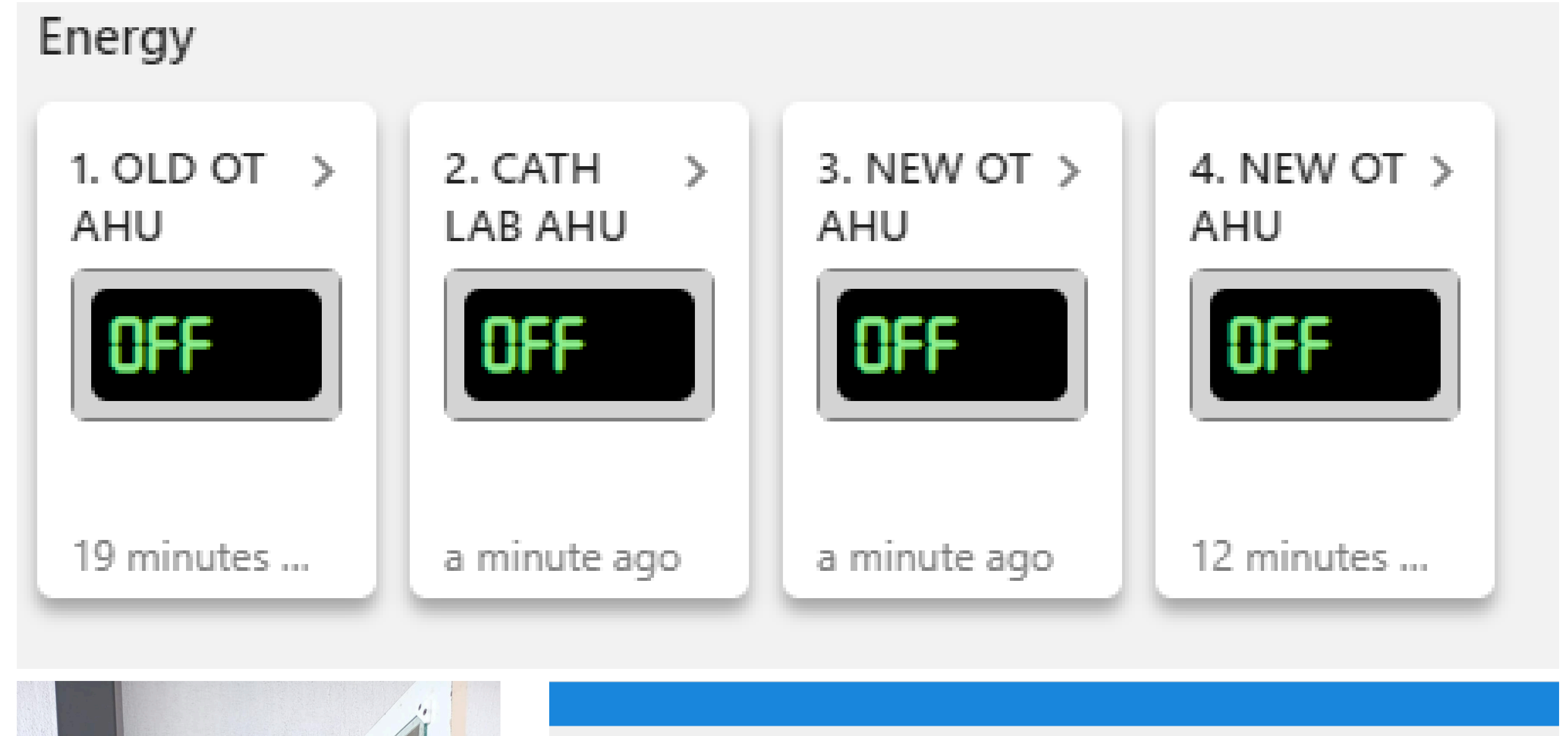Case Study

Empowering a Systems Integrator to Deliver Innovative IoT Solutions for Residential and Commercial Properties

MONITORING OF AC ON/OFF AND WORKING DURATION IN HOSPITAL USING IOT

Energy

1. OLD OT AHU >	2. CATH LAB AHU >	3. NEW OT AHU >	4. NEW OT AHU >
OFF	**OFF**	**OFF**	**OFF**
19 minutes ...	a minute ago	a minute ago	12 minutes ...

Year

Overview

A systems integrator working with residential and commercial properties approached us with a vision to offer value-added IoT solutions to his clients. Among his customers were **hospitals and multi-story towers**, where the need for better monitoring and control of critical systems was becoming increasingly important. By utilizing our IoT platform, the systems integrator was able to provide unique solutions such as AC and generator monitoring for hospitals and flood alarms in lift chambers for commercial buildings. This enabled his clients to increase efficiency, reduce manual oversight, and improve overall safety.

Challenge

The integrator's clients, particularly hospitals, were facing specific challenges:

- **AC Monitoring for Operation Theaters:**
  Hospitals needed to monitor whether powerful air conditioning units in their operation theaters were turned on, for how long, and ensure they had enough cooling time between operations to avoid damage.

- **Generator Usage Monitoring:**
  Hospitals also wanted to ensure their backup generators were not running unnecessarily and monitor their on-time to prevent diesel theft.

- **Flood Detection in Lift Chambers:**
  For high-rise buildings, the risk of flooding in lift chambers posed a serious safety hazard. The existing flood alarms installed by lift companies could only be checked manually from the lobby, limiting response time in emergencies.

The systems integrator saw this as an opportunity to offer his clients a connected IoT solution that would automate the monitoring of these critical systems, improve safety, and reduce costs.

Solutions

We worked closely with the systems integrator to build a **custom IoT solution** that addressed his clients' challenges using our platform. Our solution included:

Key elements of our solution included:

- **AC and Generator Monitoring for Hospitals:**
  Using our AC/DC detection kit, we enabled real-time monitoring of the on/off status of both air conditioners and generators. A custom software model displayed the run times of these systems on a mobile app, allowing hospital administrators to ensure that ACs were off during idle periods and that generators weren't running unnecessarily, preventing diesel pilferage.

  - ○ **AC Monitoring:**
    Hospitals could now track the total operating time of ACs in operation theaters, ensuring sufficient cool-down periods between operations to maintain their performance and availability.

  - ○ **Generator Monitoring:**
    The app tracked generator usage and provided alerts when they were running too long, helping to control fuel costs and ensure efficiency.

- **IoT-Enabled Flood Alarms for Lift Chambers:**
  Since we design and manufacture our own IoT hardware, we customized the form factor to fit neatly under railway carriages. Additionally, we modified the hardware's power supply and battery systems based on the specific needs of the railways.

Results

The custom IoT solution delivered substantial benefits to both the systems integrator and his clients, including hospitals and high-rise

- **Improved Operational Efficiency:**
  Hospitals were able to ensure their operation theaters were always ready by monitoring ACs in real-time and preventing generator over-use. This helped them reduce downtime and improve operational readiness for critical procedures.

- **Fuel Cost Reduction & Theft Prevention:**
  By tracking generator usage, the solution allowed hospitals to reduce fuel consumption and prevent diesel theft, leading to significant cost savings over time.

- **Enhanced Safety in High-Rise Buildings:**
  The flood alarms for lift chambers enabled faster response times, preventing costly damage and improving building safety by notifying property managers of potential flooding before anaccident occurred.

- **Increased Upsell Opportunities for the Integrator:**
  The systems integrator was able to upsell his services by offering innovative IoT solutions to his clients, including hospitals and commercial property managers. This helped him strengthen his relationship with existing customers and attract new ones by providing advanced, value-added solutions.

Conclusion

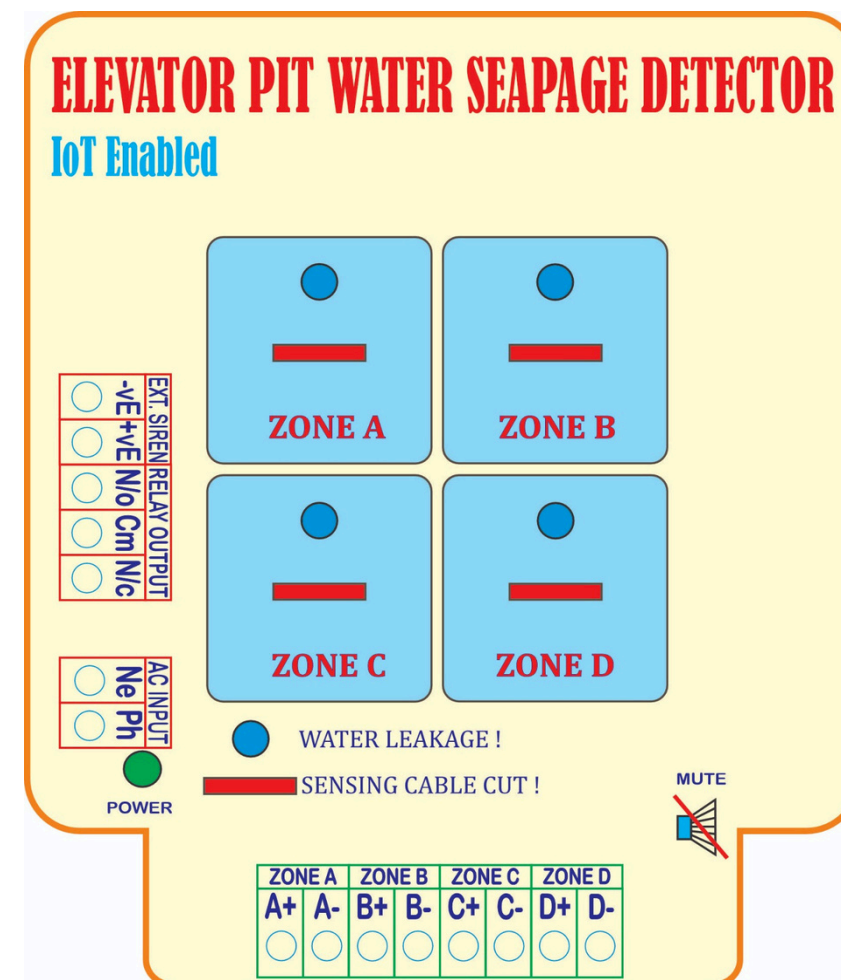By leveraging our flexible IoT platform, the systems integrator successfully delivered customized solutions that addressed critical needs for his residential and commercial clients. From monitoring ACs and generators in hospitals to flood alarms in lift chambers, our platform allowed him to provide cost-effective, reliable solutions that improved operational efficiency, reduced costs, and enhanced safety.

This partnership not only benefited the systems integrator but also created lasting value for his customers, reinforcing the role of IoT in modern building management.

Key Highlights

- **Real-Time AC & Generator Monitoring:**
  Prevented overheating and ensured proper generator usage, reducing costs and improving efficiency.

- **IoT-Enabled Flood Alarms:**
  Provided proactive safety management for high-rise buildings.

- **Cost-Effective Solution:**
  Leveraged existing WiFi networks, with optional LoRa gateways for enhanced coverage.

- **Increased Business Opportunities:**
  Helped the integrator offer innovative, upsell-ready services to his clients.

Looking to enhance your systems integration business with IoT solutions? Contact us to discover how our platform can help you offer value-added services to your clients.

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Key Features

LIFT FLOODING

A Tower >

FLOODING STATE	SENSOR STATE
✅ DRY	✅ NORMAL

9 minutes a...

ELEVATOR PIT WATER SEAPAGE DETECTOR
IoT Enabled

EXT SIREN/RELAY OUTPUT
-VE +VE N/o Cm N/c

ZONE A   ZONE B

ZONE C   ZONE D

AC INPUT
Ne Ph

WATER LEAKAGE !
SENSING CABLE CUT !

POWER   MUTE

ZONE A	ZONE B	ZONE C	ZONE D
A+ A-	B+ B-	C+ C-	D+ D-

- **Customizable Monitoring:**
  The system displayed both real-time status and historical data on the on/off times for ACs and generators. It could also send alerts when ACs required a cool-down period or when generators were running beyond their typical usage time.

- **Cost-Effective Connectivity:**
  The solution utilized WiFi, which was already available in most of the buildings, making it extremely cost-effective for the customers. In cases where WiFi was weak or unreliable, we provided our affordable LoRa gateway, which did not require a full-scale LoRaWAN installation, saving significant costs.

- **User-Friendly Mobile App:**
  The app provided property managers and hospital administrators with a simple, intuitive interface to monitor critical systems like ACs, generators, and flood alarms, all from their smartphone or desktop.