



ENERGY CASE STUDY

Wireless Temperature Sensing in Nuclear Power Plants

The TL;DR

Entergy, a Fortune 500 power utility serving 3 million customers, chose reelyActive to jumpstart their IoT innovation efforts, starting with a wireless temperature sensing solution across their five nuclear power plants. reelyActive’s unique blend of open-source IoT middleware, expertise, and unbiased guidance helped fast-track the development of an interoperable, multi-vendor solution. This collaboration ultimately earned reelyActive a Premier Supplier Award for Innovation.

Making Sense of the IoT Solution

reelyActive’s Pareto Anywhere open-source IoT middleware facilitated the integration of wireless sensor data from Entergy’s HPE Aruba Networking access points into their existing SQL Server database.



What does that mean? The middleware decoded Bluetooth Low Energy payloads from Efento high-temperature sensors into a standardised format, making the system scalable, flexible, and efficient. This solution was guided by reelyActive’s Beyond subscription model, ensuring ongoing collaboration and continuous improvement of Entergy’s operations.

reelyBeyond

Beyond the Traditional Vendor-Client Relationship

Entergy chose reelyActive’s *Beyond* annual subscription, which provided them with unrestricted access to expertise and support. This model ensured efficient, collaborative engagement without any artificial constraints.

reelySmart

Leveraging what’s already in place

Entergy already had HPE Aruba Networking access points in place, for both Wi-Fi and IoT connectivity. As an Aruba Technology Partner, reelyActive ensured those access points pulled double duty, collecting wireless sensor data without the need to install extra hardware.



“reelyActive’s impartial guidance was key to realising a proof of concept that has evolved into more ambitious initiatives.”

~ Jake Claes, Data Strategy & Innovation @ Entergy



The Premier Supplier Award for Innovation



Photo (left to right): Andy Quick, Chief AI Officer, Entergy; Jeffrey Dungen, CEO, reelyActive; Benoit Pomerleau, COO, reelyActive; David Hahn, SVP Engineering and Technical Services Entergy.

In May 2024, reelyActive was honoured with the **Premier Supplier Award for Innovation by Entergy**, recognising the groundbreaking work done in implementing the wireless temperature sensing solution.

This award was not just a testament to technical excellence but also to reelyActive's commitment to fostering a culture of innovation and collaboration within Entergy. The project showcased how reelyActive's open-source middleware could seamlessly integrate with existing infrastructure while setting the stage for future IoT initiatives.

Making Sense of Temperature

Steam leaks are hidden gremlins that drain both energy and financial resources. A two-megawatt loss over a year can lead to substantial waste in steam resources. Installing wired sensors to monitor these leaks wasn't feasible in Entergy's nuclear power plants due to complexity and cost.

With reelyActive's wireless temperature sensing solution, Entergy could monitor leaks in real-time, improving efficiency and increasing electricity production. This led to significant savings, both in time and cost, compared to traditional multi-vendor integration solutions.



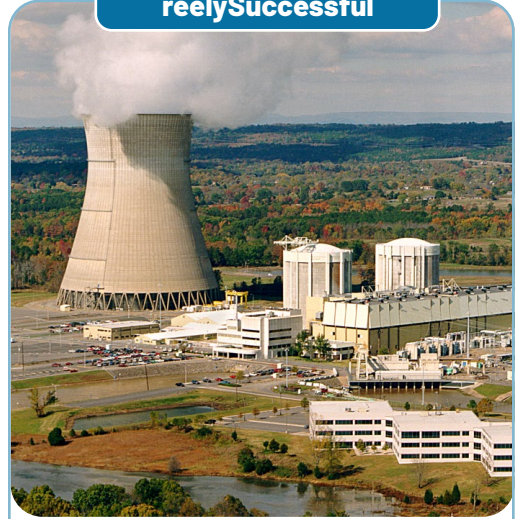
Infrastructure-as-an-Opportunity



Entergy had already implemented HPE Aruba Networking access points (APs) with both IoT and Wi-Fi capabilities. By leveraging this existing infrastructure, they unlocked the potential for wireless sensing initiatives that were previously out of reach, beginning with temperature monitoring.

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reelySuccessful



The Outcome

The wireless temperature sensing project didn't just check a box, it sparked a wave of innovation. What started as a single project quickly grew into something bigger, encouraging a dive into more ambitious IoT Initiatives. With guidance from reelyActive, Entergy isn't just keeping up - they're leading the charge.

reelyResults

Powering Progress: Fast Results, Smart Strategy, and Big Savings



TIME
Less than 6 months to implement



STRATEGY
Eliminated manual data collection



IMPROVEMENT
Enhanced data accuracy and operational reliability



FUTURE PLAN
Expansion to industrial vibration sensors and analog gauge readers



SAVINGS
Achieved significant cost savings

"You can't buy innovation. It needs to be nurtured within your organisation."

~ Jeffrey Dungen, reelyActive