# CLOUDY WITH A CHANCE OF OPERATIONAL VISIBILITY

*As an energy services company, Coriance distributes hot water to cities and municipalities across France. Coriance has 30 heating networks spread over multiple substations and its equipment consists of gas boilers, cogeneration engines and more. Unfortunately, its legacy control systems provided only scattered, poor-quality operational data, preventing Coriance from understanding its asset performance and making preventive adjustments.*

*Not only that, engineers relied on Excel reporting, which was cumbersome and complex. All of these hurdles made it impossible to understand energy consumption, optimize power production, and manage meter data from one centralized location. With the help from OSIsoft's partner Accenture, Coriance turned to the PI System™ to collect, standardize, validate data, and gain real-time operational insights. Through a unique configuration, the company deployed the PI System in the cloud, giving its engineers access to a flexible solution that today is available anytime and anywhere.*

## SCATTERED SYSTEMS AND INCONSISTENT DATA

Before digitizing its operations, Coriance relied on several SCADA systems that were previously installed by local municipalities. Given the disparate nature of the control systems, there was no centralized way to gain operational insights and no consistent data standard. Data records were often incomplete, leaving employees to fill in the gaps.

Coriance knew that it was necessary to automate data capture and make operational insights readily available, but the company lacked IT infrastructure and the team had little-to-no experience with data historians.

As part of its enterprise-wide digitalization, Coriance opted to centralize energy functions using the PI System. Not only could the PI System grow and scale as knowledge and needs changed, it could serve as a cloud-based data infrastructure, allowing Coriance engineers to standardize operational and metering data in one location. To ensure that critical reporting functionality was available before a company-wide deployment, the PI System was rolled out to five locations through a proof of concept program.

## PI (SYSTEM) IN THE SKY

With the help of Accenture, the PI System and other analytics tools were bundled together within a Microsoft Azure private cloud to create a platform-as-a-service—a flexible solution ideal for a company with limited IT resources. This platform connected directly into the various control networks via a hardware VPN, enabling the data to go from "the edge" straight to the cloud.
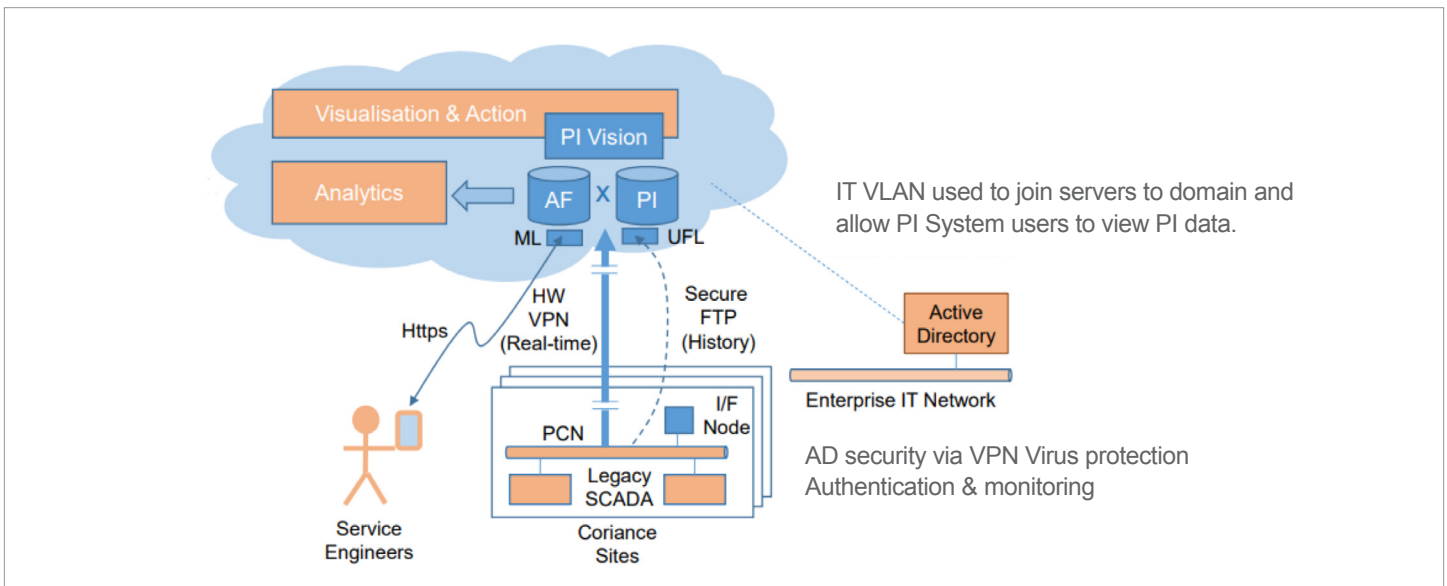
### CHALLENGE

Legacy control systems provided Coriance with inadequate visibility into asset performance across multiple sites

### SOLUTION

A cloud-based platform-as-a-service using the PI System & Microsoft Azure with data validation

### BENEFIT

Real-time operational data access & standardization improved visibility & operational performance

*Coriance is running a cloud-based PI System in a private Azure environment to collect operational data & validate it using Asset Framework (AF).*

This architecture not only mitigated the need for extensive hardware, it gave Coriance access to the full suite of PI System tools and compression capabilities. According to Accenture, a local installation that streamed data into the cloud would have been 75 times the size of the current solution, skyrocketing the cost of hardware and storage while stagnating performance.

"It's a really innovative model for putting PI into the cloud," said Simon Coombs, Global Lead for Accenture's PI System Practice, during PI World Barcelona 2018.

Right away, the new cloud-based configuration automated asset data capture, giving Coriance access to real-time data from the disparate control systems. In addition, field crews used PI Manual Logger to enter and upload meter data from remote substations using mobile phones. However, capturing real-time and manually-entered data was not enough—that data needed to be contextually validated to ensure one single source of truth.

## A SINGLE SOURCE OF TRUTH

Using Asset Framework (AF), a part of the PI Server, Coriance took a layered approach to data validation. After first establishing a data hierarchy, the team built out layers of rules around data quality as well as key checks to validate data entered into PI Manual Logger. Any deviations are now immediately flagged, giving team members

the chance to quickly course correct. As a means of preserving overall data integrity, Coriance continually compared current and historical data within AF to analyze prior ratios and validate current trends. All of this ensured that only validated data was used for reporting— now done automatically from the PI System—and for optimizing asset performance.

## IMPROVEMENTS BOTH NOW AND IN THE FUTURE

Since installing the PI System in the cloud, Coriance has already made critical operational improvements. Using PI System data, they compared the performance of two twin biomass boilers and realized that one was not running at optimal level. After identifying the discrepancy, they were able to bring the lagging boiler up to speed. In addition, PI System data allowed them to determine the exact heat setting to optimize performance on a steam turbine. While the setting differed from the manufacturer recommendation by two to three degrees, the minor temperature adjustment saved the company a substantial amount of money. Next, Coriance plans to roll out the platform across its full portfolio so that it can have a single source for all energy and asset performance insights.

*For more information about Coriance and the PI System, watch the full presentation here.*

**PARTNER:** Accenture

**PI System Components:**

PI Server™
- Data Archive
- Notifications
- Event Frames
- Asset Analytics
- Asset Framework

PI Vision™

PI Manual Logger™

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*This is a transformational program. It represented a 10% improvement that went straight to the bottomline."*

— Simon Coombs, Global Lead for PI System Practice at Accenture; Michel Patrick, Regional Director at Coriance

Michel, Patrick / Coombs, Simon. "Using PI Cloud and Transformation to Drive Operational Performance" <https://www.osisoft.com/Presentations/Using-PI-Cloud-and-Transformation-to-Drive-Operational-Performance/>