
AVEVAWORLD
ACCELERATE INDUSTRIAL INTELLIGENCE

PowerRunner

Grid-aware by design

A unified data foundation for water, electric, and gas with AVEVA PowerRunner on PI

Scott Smith | Senior Industry Consultant, PowerRunner

AVEVA World 2026 | Milan | Spotlight Theatre — Level 0

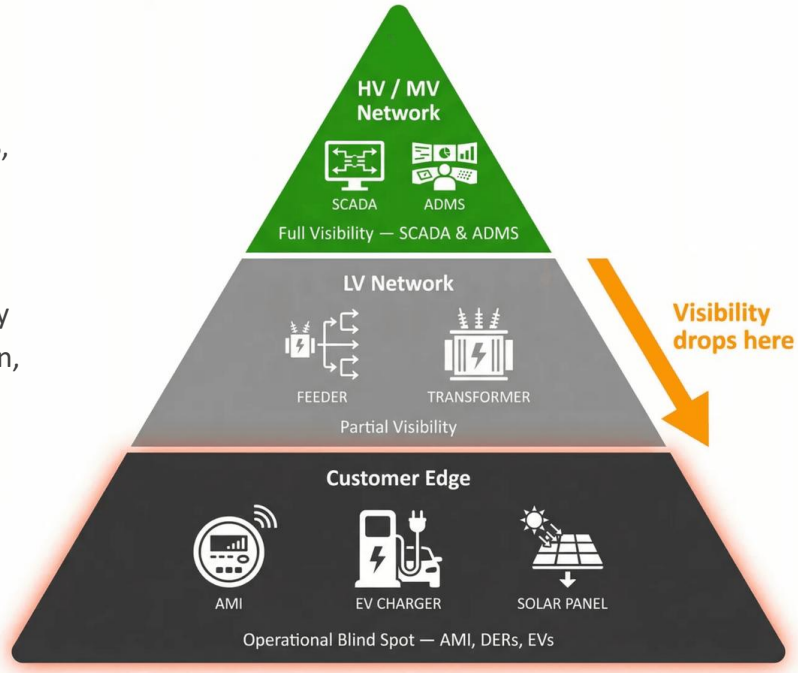
AVEVA PI System

Utilities are data-rich but operationally blind at the grid edge

Utilities have invested in enterprise data lakes, collecting AMI, SCADA, GIS, CIS and IoT streams. These repositories support business intelligence but often miss operational needs.

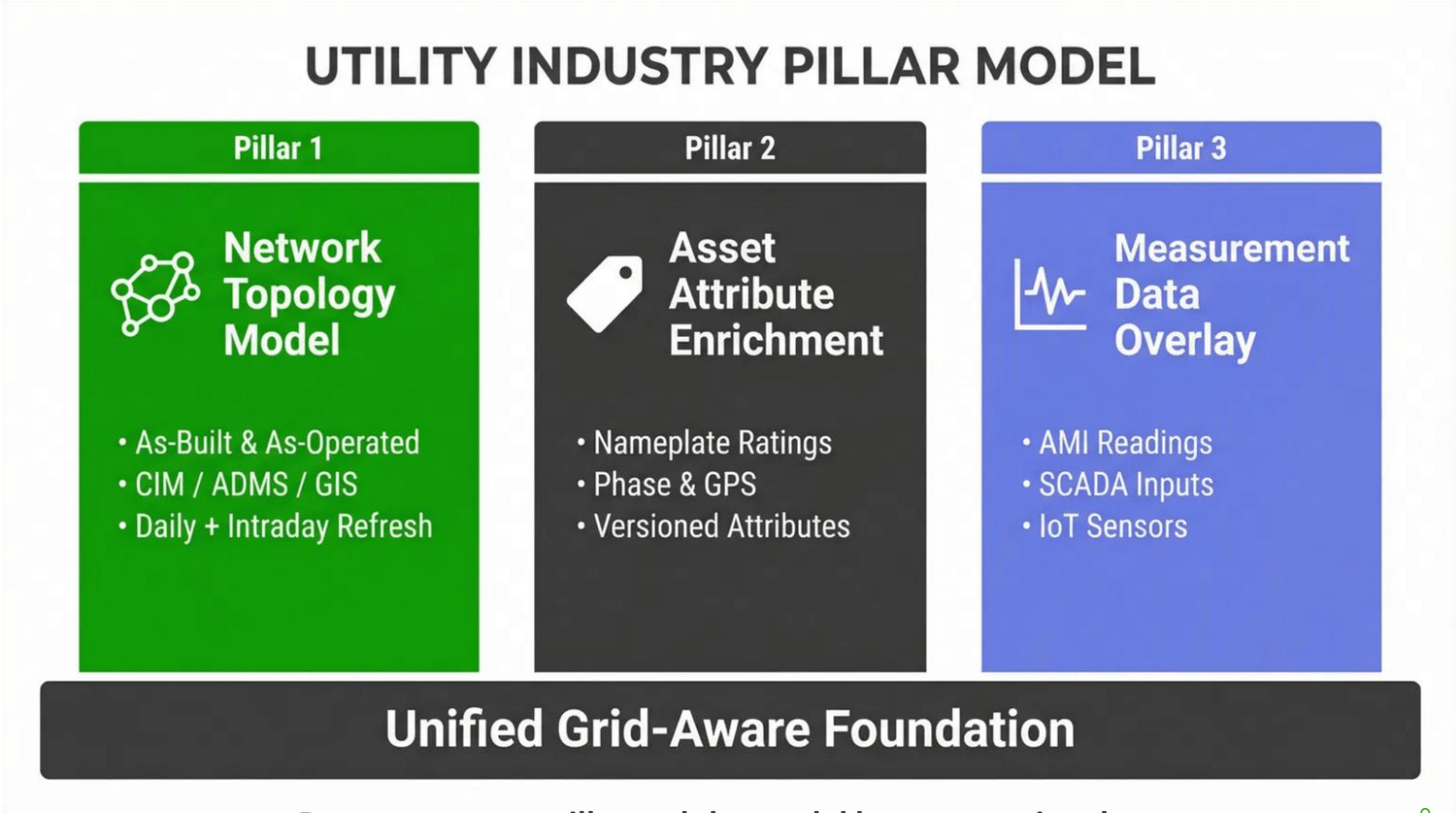
Storing data isn't the same as understanding it. To trace a voltage anomaly from a customer meter back through transformer and feeder to substation, engineers need the relationships between assets, configurations and context.

> ***"Utilities don't need more data analysts to wrangle data; they need data that understands itself."***



PowerRunner

One foundation. Three pillars. All three must be present.



Remove any one pillar and the model loses operational trust.

PowerRunner

AVEVA PI SYSTEM

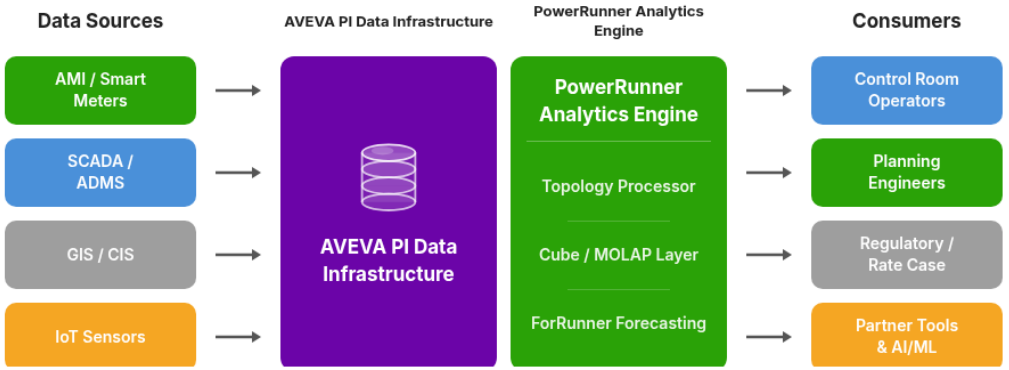
AVEVA PI System provides the temporal backbone that makes the model live

PowerRunner's native PI connector means data flowing through AVEVA PI System is automatically available for contextualization against the network model — **without custom pipelines or bespoke ETL code**.

~8.5M **UK Power Networks:** smart meter devices scaled on the AVEVA PI System backbone

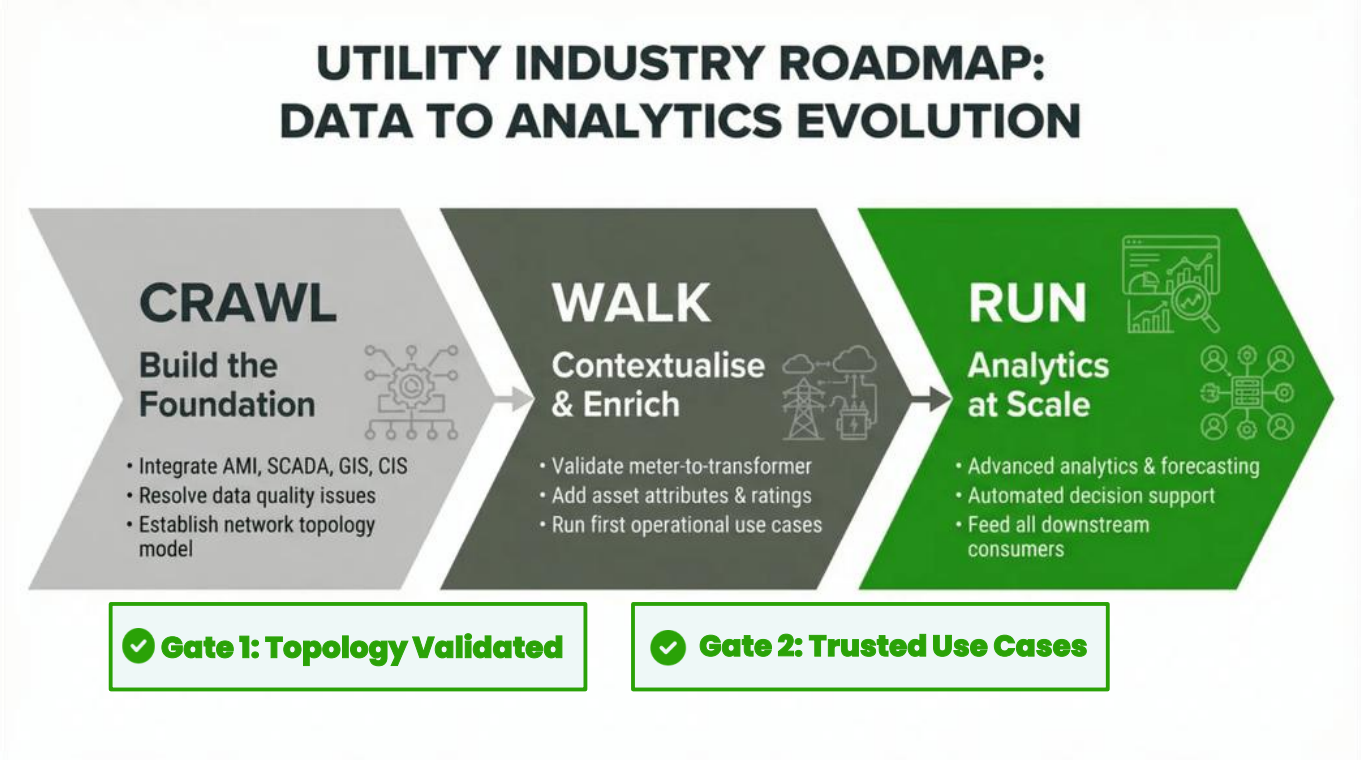
90% **ComEd:** engineering review time cut using PowerRunner on AVEVA PI System

Data stored at full resolution with compression and exception reporting



PowerRunner

A practical blueprint: build trust before you build analytics



The most common failure mode in utility analytics programs is attempting to run before the data foundation is trusted. PowerRunner's Crawl–Walk–Run methodology is a structured deployment approach that prevents this.

PowerRunner

Build once, govern continuously, serve many — the governed foundation eliminates re-engineering

The most expensive pattern in utility analytics is the "bespoke pipeline" anti-pattern: every new use case, every new partner tool, and every new regulatory requirement triggers a new data engineering project. The result is a fragile web of custom pipelines that is expensive to maintain and impossible to govern.

THE GOVERNED FOUNDATION SERVES ALL CONSUMERS SIMULTANEOUSLY

Consumer	What they need	What the foundation provides
Control Room	Near real-time alerts on at-risk assets	Transformer loading, voltage excursions, data quality flags
Planning Engineers	Historical load profiles and capacity headroom	Feeder-level aggregations, rating vs. actual vs. forecast
Regulatory / Rate Case	Auditable, evidence-based capacity analysis	Push-of-a-button capacity headroom per asset
Partner Tools	Clean, structured, contextualised data feeds	Governed REST API outputs, PI data feeds
AI / ML Models	Labelled, structured training data	Pre-modelled relationships, validated topology

Five principles for a grid-aware data foundation you can act on today

1

Contextualise at ingestion, not after the fact.

Build the network topology before loading measurements so every reading knows where it belongs on arrival.

2

Preserve time, location, and asset relationships as first-class citizens.

Those dimensions are essential — lose any and operational decisions suffer.

3

Use dynamic rollups, not static aggregations.

Run rollups at query time so totals stay consistent even when some asset data is missing.

4

Crawl before you run.

Fix data quality at the foundation; analytics on unvalidated data are unreliable.

5

Build once, govern continuously, serve many.

A governed foundation feeds multiple tools without re-engineering data for each consumer.