From Blind Operations to Real-Time, Digital Twin–Driven Performance

DIGITAL–INDUSTRIAL CONVERGENCE

STRATEGIC PROOF

A large multi-site manufacturer was operating without unified visibility across its plants—despite significant investments in automation and data systems. Production data existed at the machine level but was never aggregated, performance was reported with daily or weekly delays, and decisions were made on historical data rather than real-time insights. The result: delayed responses, inefficient resource utilization, and inconsistent performance across sites.

This case demonstrates how Fortis & Peak Consulting & Investment deployed a Digital Twin architecture and PeakFlow OS to transform fragmented, reactive operations into a real-time, predictive, and continuously optimized enterprise.

Fortis & Peak
Shaping What's Next

The Executive Challenge

STRATEGIC PROBLEM

The core challenge was a fundamental disconnect between the organization's physical operations and its digital representation. Machines and production lines were generating real-time data, but that data never reached decision-makers in a meaningful, timely form. Dashboards were disconnected, reporting was aggregated and delayed, and there were no predictive or simulation capabilities in place.

Operational Reality

- Physical assets generating real-time data
- Performance variations across machines and lines
- No unified cross-site view

Digital Reality

- Disconnected dashboards
- Aggregated and delayed reporting
- No predictive or simulation capabilities

> The enterprise could not see what was happening now, predict what would happen next, or optimize what should happen instead.

The Fortis & Peak Intervention

ARCHITECTURE & INTEGRATION

Fortis & Peak designed and deployed a comprehensive Digital Twin architecture spanning all production sites. Every machine, production line, material flow, and capacity constraint was modeled digitally—creating a living, breathing replica of physical operations. This twin became the foundation for all subsequent intelligence layers.

Simultaneously, PeakFlow OS was used to bridge the gap between operational technology (OT) at the machine level and enterprise IT systems. Real-time data streaming was enabled into a single unified platform, establishing one operational data model across the entire organization—eliminating the silos that had previously made cross-site visibility impossible.

Five Pillars of the Solution

1

Digital Twin Architecture

Modeled machines, production lines, material flows, and capacity constraints across all plants into a unified digital replica.

2

Real-Time Data Integration

Connected OT machine-level data with enterprise IT systems via PeakFlow OS, enabling real-time streaming into a single operational data model.

3

Live Visibility Layer

Deployed dashboards tracking throughput, downtime, bottlenecks, yield, and efficiency—per machine, line, plant, and enterprise-wide.

4

Predictive & Simulation

Used the digital twin to simulate production scenarios, forecast bottlenecks, and optimize scheduling and capacity utilization.

5

Decision Intelligence

Linked operational performance to financial impact—cost and margin—enabling proactive, real-time resource reallocation and disruption prevention.

The Transformation: From Reactive to Predictive

The transformation was not merely technological—it was a fundamental shift in how the organization related to its own operations. Static, lagging reports gave way to live operational intelligence. Limited plant-level visibility expanded to an enterprise-wide, real-time view. And reactive firefighting was replaced by predictive, simulation-driven decision-making that allowed leaders to act before problems materialized.

Measurable Impact

QUANTIFIED RESULTS

+30%

Operational Visibility

Improvement in visibility across all plants and production sites.

25%

Downtime Reduction

20–25% reduction in unplanned downtime across operations.

+15%

Production Efficiency

Increase in overall production efficiency enterprise-wide.

Issue detection and resolution time dropped from **hours to minutes**, with significantly improved consistency of performance across all sites.

Strategic Outcome & Key Insight

The organization moved from managing operations after the fact to orchestrating operations in real time. The fundamental question shifted from *"What happened?"* to *"What is happening—and what should we do next?"* This is the defining difference between a reactive enterprise and a truly intelligent one.

> **You cannot optimize what you cannot see—and you cannot predict what you cannot simulate.**

The future of operations is not managed—it is simulated, visualized, and continuously optimized in real time. Fortis & Peak enables this transformation by building digital twins of industrial operations, integrating real-time data through PeakFlow OS, and enabling predictive, simulation-driven decision-making at every level of the enterprise.

About Fortis & Peak

OPERATIONS & EFFICIENCY | STRATEGIC PROOF

This Strategic Proof demonstrates how Fortis & Peak Consulting & Investment enables organizations to redefine strategic direction and realign operating models to unlock sustainable growth. We combine the rigor of top-tier advisory with a distinctly hands-on approach—translating strategy into measurable performance, operational discipline, and scalable execution.

We engage selectively with organizations that seek clarity at the top, precision in execution, and results that endure well beyond the engagement.

Digital Twin Architecture

Building live digital replicas of industrial operations to enable simulation and real-time intelligence.

PeakFlow OS Integration

Connecting OT and IT systems into a single, unified operational data model for real-time streaming.

Predictive Decision Intelligence

Linking operational performance to financial outcomes and enabling proactive, simulation-driven decisions.