

BC Automation

SPA™ (Symmetrical Parallel Aggregation)

Tech Primer - 07/06/25

A smarter data system needs structured aggregation.

Modern manufacturing data is fragmented by legacy tools. Historians lose fidelity. SCADA systems delay access. Operators wait for IT to extract stale insight. SPA™ (Symmetrical Parallel Aggregation) solves this by creating a secure, real-time, tamper-evident data fabric that serves everyone, from the edge to the enterprise. SPA™ enables clean, encrypted, metadata-rich signals to flow in parallel across your factory and beyond. Instead of filtered logs and siloed systems, you get structured context: every sensor, override, batch record, and energy event is tagged and ready.

PROBLEM: Control logic filters out what insight systems need.

Most industrial data is messy:

- untagged, unscaled, or inaccurate
- Poor-quality telemetry overwhelms systems and misleads analysis
- Legacy layers downsample and delay access to critical signals
- Data pipelines often lack provenance or context, undermining trust
- Operators and analysts waste time reconciling conflicting records

SOLUTION: Make your telemetry structured, secure, and smart.

- SPA™ creates encrypted, metadata-tagged streams from any device or system
- Signals flow in real-time — role-aware, protocol-flexible, and tamper-evident
- Extensions like Quantum SPA™ and DAG anchoring support TrustLabel™ and SDA
- Deploys flexibly across standard industrial hardware

OUR IMPACT: Data isn't just available. It's usable, traceable, and ready.

SPA™ is the foundation for a true digital twin — enabling high-fidelity, time-synchronized representations of your operations that reflect reality, not approximation.

- Structured signals enable live dashboards, digital twins, and AI models
- Compliance and audits are backed by tamper-evident metadata
- Batch execution, control overrides, and energy events are recorded at full fidelity
- Operators and systems make decisions on trusted, real-time context
- SPA™ supports autonomy, traceability, and insight — without vendor lock-in



95+

clients served

625+

unique processes automated

\$3.8B+

client dollars saved

"A huge asset to any company looking to improve their cost and reliability."

Chris Whitehair
SVP Global Operations at SunOpta

"[BC Automation's] solutions are most thorough and comprehensive."

Ned Mitenius
Founder & Sr Consultant at Periscope Consulting

Let's Transform Your Manufacturing Together.



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