UNVEILING THE MAGIC OF MIDSTREAM INNOVATION

2025

GPA MIDSTREAM CONVENTION

Unlocking Enterprise Visibility

How Cloud-Based Ops Monitoring Unites Multi-DCS Midstream Operations

Introductions

Chris Lloyd
Head of Product
and Architecture
BlueMarvel AI

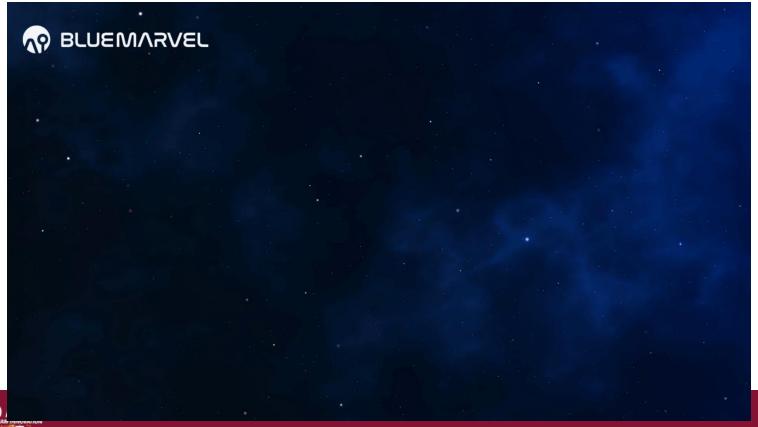## Jared Fredrickson
Business Unit Leader -
Digital Transformation
Vinson Process Controls

The Future of Enterprise Visibility

Disaster Strikes.

A customer's facility experienced a massive explosion, with the root cause determined to be safety measures that had been bypassed - and a corporate initiative was created focused on safety was created.

To meet this challenge, one of its sister facilities began looking for tools to improve safety, collaboration, and alignment, ultimately leveraging alarm data for better personnel safety. But the facility still faced challenges with **safety adoption, siloed operations, operational accountability,** and **growing regulatory and insurance pressures** requiring proof of safe practices.

BlueMarvel AI

In 1972, Apollo 17 transmitted the iconic "Blue Marble" image back to Earth, forever transforming our perception of our home planet. Industrial operations are overdue for a perception shift. Enter **BlueMarvel AI**.

- We believe that industrial operations, like space, are ***high-risk*** and ***high-reward***.
- We believe these industries deserve the ***best technology*** to make them safer, greener, and more performant.
- And we believe it is only through the scientific application of the imagination that we can build something ***great***.

Science without imagination is just theory. Imagination without application is just fantasy. Applied together, they drive **Insights to Action.**
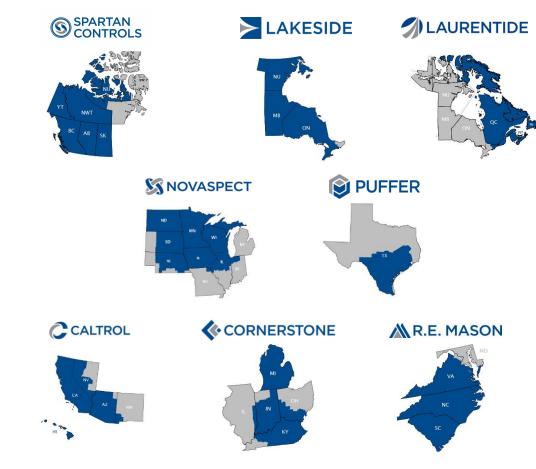
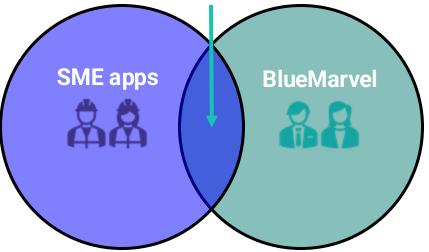**"The earth is blue!" - Yuri Gagarin**

BLUEMARVEL

The Diagnosis

BlueMarvel and Plant Health

Collaboration around Health

SME Apps = Specialists

SME apps

BlueMarvel

BlueMarvel = Family Doctor

Key Health Questions

1. What's happening?

2. What happened last time?

3. Why did this happen?

4. What is the impact?

5. How do we make things better?
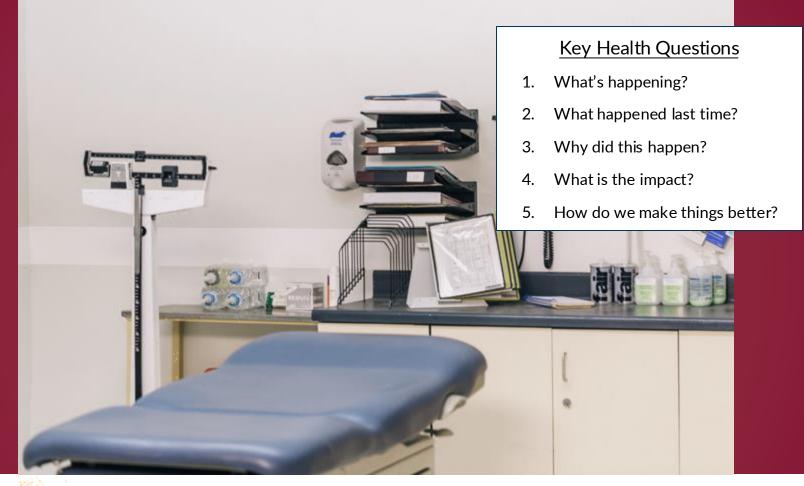
ISA 18.2 Operator Overload
Plantwide ISA 18.2 metrics would indicate Operators are overloaded. Deeper investigations can be conducted on individual consoles.

Alarm Reduction Opportunity
Lots of opportunity to reduce alarms by addressed chattering and possible redundant alarms.

Alarm Acknowledgement Distraction
Significant Alarm Acknowledgements are consuming a lot of operator focus.

Manual Intervention in Control Loops
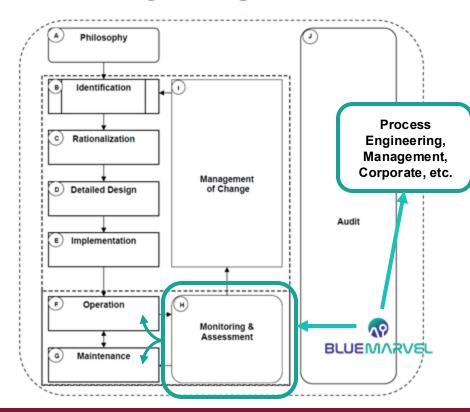Significant Control Loop Interventions may indicate some challenges with control.

ISA 18.2 / IEC 62682 / EEMUA 191

Alarm systems should help Operators

- **Improve "Situational Awareness":** Operators overwhelmed by alarms have decreased situational awareness, and increase the risk to operations.

- **Alarm Philosophy and Definitions:** Definition of an "Alarm" and its classifications, what "good" and "bad" metrics are for alarming, and more.

- **Work Processes:** Defines 10 work processes for better design, rationalization, maintenance, and management of alarms.

- **Master Alarm Database:** defines an auditable system to store and manage alarms, and the implementation and management of change required to implement it.

Process Engineering, Management, Corporate, etc.

OperationsMetrics

Transform alarm and event data into operational insight.

Key Capabilities:

- Centralize alarm and event data across fleets, sites, and functional teams
- Benchmark alarm system health using ISA 18.2 and EEUMA 191
- Identify trends and operational patterns related to human performance factors
- Prioritize improvement efforts with KPI comparisons
- Provide open access to alarm insights for operations, training, and risk teams
- Real-time bypass monitor and risk assessment to reduce the likelihood and severity of abnormal situations
- Enables console-to-console benchmarking across units.
- Drives continuous improvements through cross functional awareness

OUTCOME
Reduce abnormal situations, uncover training needs, and drive system-wide improvement with structured, accessible alarm intelligence.

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The Journey

The Digital Transformation Journey

People, Process and **Technology** are key to the digitally transforming any organization - but does the journey for an Industrial Enterprise look like?

1 **Journey.**

3 **Challenges.**

3 _Real-World_ **Quotes.**

3 **ways we solves them.**

My Dream Home

My Dream ~~Home~~ Facility

Challenge #1:

"Excel is the second best tool for everything."

Your use cases already exist, but people need better tools.
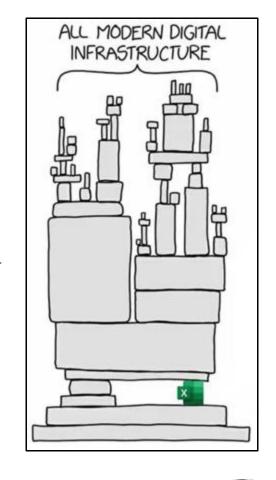
The Use Case Gap

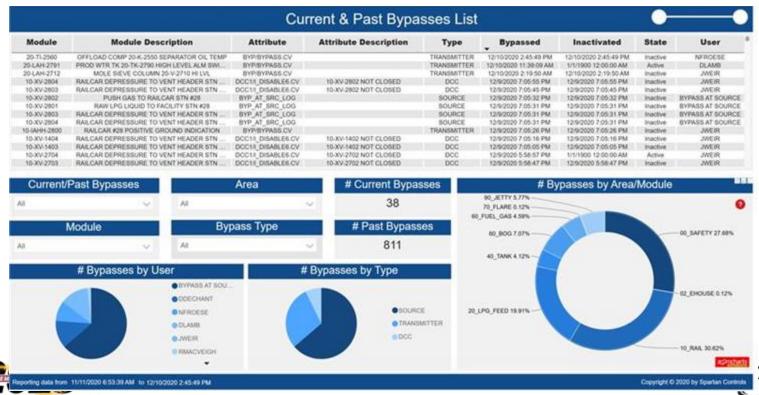

1. Not Live
2. Not Predictive
3. Not Scalable

ALL MODERN DIGITAL INFRASTRUCTURE

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PowerBI? Excel? Yes, we've broken it.

Solution: Start Smart.
Start with **Snapshot™**

BlueMarvel Snapshot™ transforms your historical operational data into instant, AI-powered insights — with no need for new IT infrastructure.

What's included:

- Visual Performance Benchmarking
- Interactive Dashboard for Deeper Insights
- Comprehensive Report with Executive Rollup
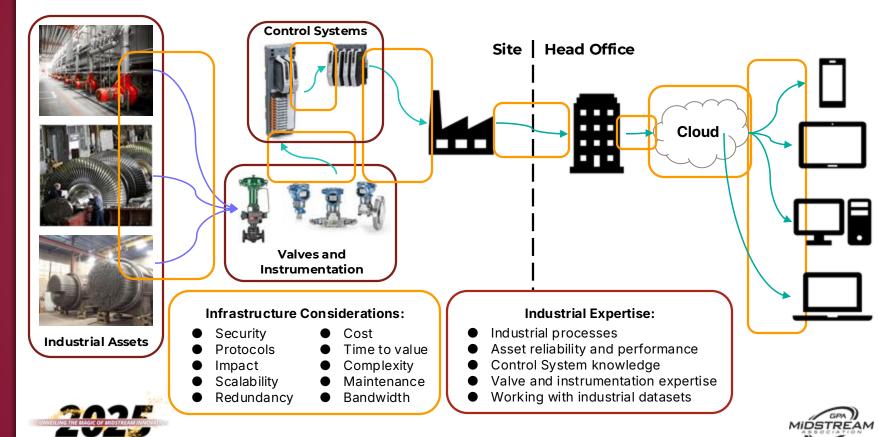- Automated, Data-Driven Decision Support

Challenge #2:

"Drawing lines and boxes is easy. Implementing them is hard."

Aligning the right OT and IT people is critical.

The IT-OT Technology Gap

Control Systems

Valves and Instrumentation

Industrial Assets

Site | **Head Office**

Cloud

Infrastructure Considerations:
- Security
- Protocols
- Impact
- Scalability
- Redundancy
- Cost
- Time to value
- Complexity
- Maintenance
- Bandwidth

Industrial Expertise:
- Industrial processes
- Asset reliability and performance
- Control System knowledge
- Valve and instrumentation expertise
- Working with industrial datasets

One Site? Many Solutions.

Industrial Facilities — **Common DMZ / Corporate** — **Cloud**

Site 1: Control System → Site Historian → Enterprise Historian → Data Lake → BlueMarvel Applications
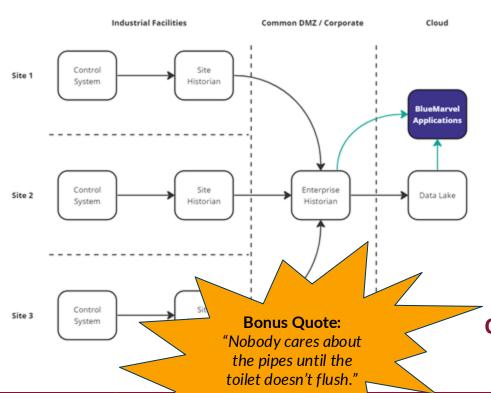
If you are an enterprise with only one site, then great news! You generally only have to spend time solving a handful of individual connectivity and data problems once. You can also quickly standardize on applications and database technologies. The weight/impact of each individual technology choice is lessened.

But what happens when you _scale_?

Many Sites? Fewer Solutions.

Industrial Facilities

Site 1 — Control System → Site Historian

Site 2 — Control System → Site Historian → Enterprise Historian → Data Lake

Site 3 — Control System → Si...

Common DMZ / Corporate

Cloud — BlueMarvel Applications

Bonus Quote:
"Nobody cares about the pipes until the toilet doesn't flush."

Drawing lines and boxes is easy, but implementing them is hard. When scaling to a multi-site enterprise application, additional considerations are required:

- **Data protocols and schema:** Every system, IT and OT, may perform similar tasks, the format of their data their protocols may be different.
- **Database Technology:** Different kinds of data sources are being unlocked from site, and a flexible database schema and retrieval performance are key.
- **Affordable Scalability:** Industrial sites generate an incredible amount of data, and right data storage strategy is key.

Choose Enterprise Applications designed for flexibility and fit your business.

Beyond **Snapshot™** — Unlock efineal-Time Operational Intelligence with **BlueMarvel Live**

Where real-time intelligence meets real-world impact.

Key capabilities:

- Live OT Data Integration
- Enterprise-Wide Monitoring
- Unified Plant Perspective
- Scalable from Macro to Micro

With a shared source of truth, cross-functional teams — from operations to maintenance to engineering — can align decisions, reduce inefficiencies, and drive measurable cost savings.

Challenge #3:

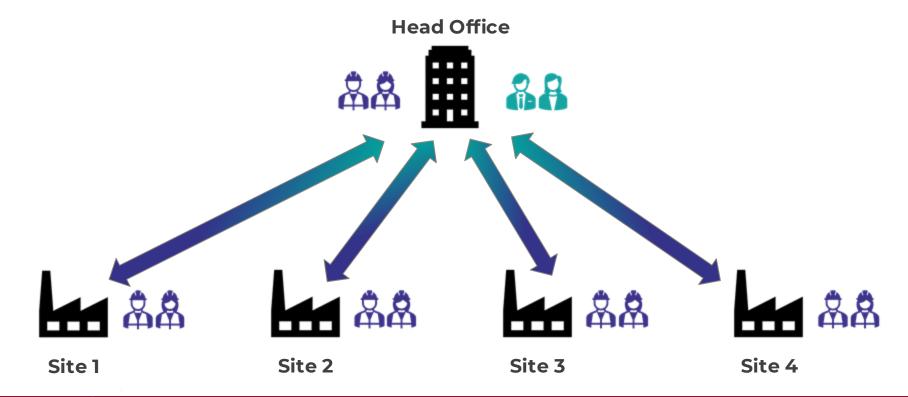*"We need to think big, but start small."*

Digital transformation and cultural transformation go hand-in-hand - and it takes time.

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The Gap Between Now and Where We Want To Be

Head Office
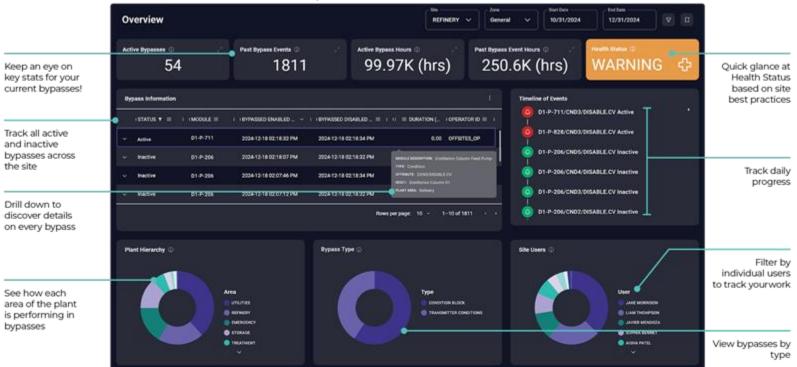
Site 1

Site 2

Site 3

Site 4

The Tool Box Meeting.

The Solution:

OperationsMetrics Live was implemented, providing an intuitive, data-driven platform that empowered both site and corporate stakeholders.
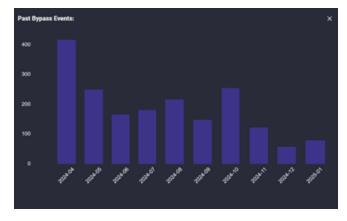

Keep an eye on key stats for your current bypasses!

Track all active and inactive bypasses across the site

Drill down to discover details on every bypass

See how each area of the plant is performing in bypasses

Quick glance at Health Status based on site best practices

Track daily progress

Filter by individual users to track your work

View bypasses by type

The Result

OperationsMetrics delivering measurable improvements:

- **Zero Bypass Standard:** Within weeks of first adoption, the facility reduced bypasses from over 35 to zero, underscoring the tool's impact on safety practices. The overall trend of bypass related events has also steadily decreased over the past year.

- **Enhanced Collaboration:** The platform bridged communication gaps between site teams and corporate offices, promoting alignment and knowledge sharing.

- **Actionable Insights:** Democratized access to alarm and event data enabled stakeholders to identify patterns and drive informed decision-making across the facility.

- **Cultural Shift:** Customer feedback emphasized the tool's role in fostering a more proactive safety culture.

Adopting **OperationsMetrics** has allowed them to steadily decrease their number of bypass events since being implemented
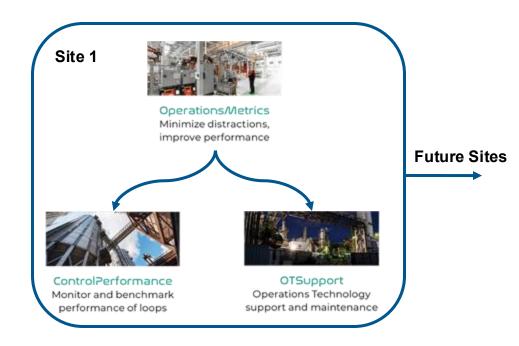
Future & Ongoing Success

The facility continues to leverage OperationsMetrics to sustain its zero-bypass standard and expand its impact:

- **Expanding Collaboration:** BlueMarvel's ControlPerformance and OTSupport solutions have been integrated, further strengthening cross-silo communication and intelligence sharing.

- **Training Opportunities:** The facility is exploring ways to use OperationsMetrics' Operator Actions feature to identify data-driven opportunities for improved automation and operator training.

- **Cross-Site Collaboration:** The tool has been showcased to other sites within the enterprise, allowing them to compare KPIs, share best practices, and drive multi-site improvements.
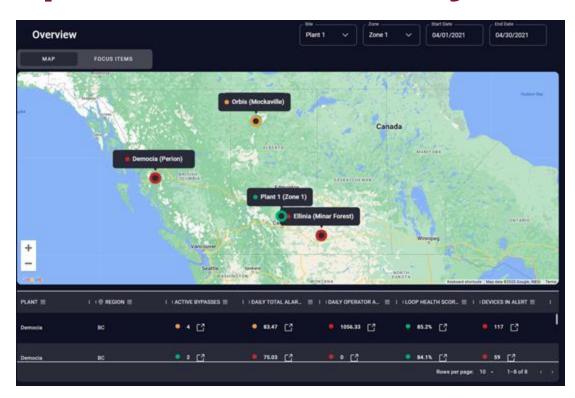

Site 1

OperationsMetrics
Minimize distractions, improve performance

ControlPerformance
Monitor and benchmark performance of loops

OTSupport
Operations Technology support and maintenance

Future Sites

Unlocked Enterprise View of Safety

- Consolidated view to installed base
- Quick identification and filtering of opportunities using a data driven approach
- Enables resources to quickly serve multiple sites easily

The Lesson

Transformation is work - but it's worth it

BlueMarvel OperationsMetrics

Practical Tools for Operational Gains

Open Discussion
Thank you