



41st ANNUAL BLOW MOLDING CONFERENCE · SPE 2026

AI Technologies for Optimizing Spare Parts Availability

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INTRODUCTIONS

Short About Me and About Verusen AI

Michael Minc

Industry Director, Verusen

- Atlanta, GA
- ~25 Years in Manufacturing Industry
- Stanley Black & Decker
- Focus on Technology Adoption

Halloween Junky



Verusen: Purpose-Built AI for Spare Parts

AI Cloud solution that works alongside your ERP / EAM to optimize spare parts data, inventory, spend and risk.

\$138B

Spend In-Platform

54M

SKUs Ingested

10

Years Training LLMs

^2.8%

Asset Uptime improvement*

15%

Avg. Working Capital Improvement

SELECT CUSTOMERS



01

AI on the Plant Floor Today

Practical examples from engineering, reliability and maintenance teams across discrete manufacturing and heavy industry.

PRACTICAL EXAMPLES

Where Engineering, Reliability & Maintenance Teams Use AI



Predictive Maintenance

Vibration, temperature and motor-current data flag wear on bearings, gearboxes and hydraulic pumps early.



Vision Inspection

Cameras check bottles and preforms for wall thickness, flash and contamination at line speed.



Process Optimization

Machine learning tunes parison profiles, heater zones and cycle times to cut scrap and energy use.



Maintenance Copilots

Technicians ask manuals, SOPs and past work orders plain-language questions to troubleshoot faster.



Failure Analytics

Language models read free-text work orders to surface repeat failures and root causes.



Spare Parts Optimization

AI enriches material data, sets criticality and right-sizes stock so the parts are there when needed.

02

How Manufacturers Are Applying AI for Spare Parts

AI Use Cases for Spare Parts



Material Search & Discovery

Description: Enable real-time, intuitive search across fragmented systems.

CHALLENGE

Searching through siloed systems causes delays.

SOLUTION

NLP-powered "Google-like" search using plain language.

OUTCOME

Rapid material location, streamlined operations.



Parts Data Enrichment

Description: Analyze master data to identify data gaps, obsolete parts, and enrich master data

CHALLENGE

Data gaps drive excessive spend, inventory and downtime.

SOLUTION

AI LLMs and Graph Models to surface material truth

OUTCOME

Efficient spend, improved availability, and reduced waste.



Duplicate Material Identification

Description: Detect and consolidate duplicate records to reduce redundancy, risk and costs.

CHALLENGE

Inconsistent data and poor governance create duplication.

SOLUTION

AI identifies duplicates using LLMs and graph models.

OUTCOME

Improve Sourcing, Avoid overstocking, Save Time



Parts Criticality & Operational Risk

Description: Determine and prioritize parts based on impact to operations and risk.

CHALLENGE

No Methodology for identifying which parts are critical

SOLUTION

AI assigns dynamic criticality based on real-time risk.

OUTCOME

Smarter stocking with reduced downtime risk.



MRO Inventory Optimization

Description: Align inventory levels with actual demand to reduce excess and stockouts.

CHALLENGE

Managing 50,000+ parts without real-time analytics.

SOLUTION

AI-driven right-sizing based on demand variability.

OUTCOME

Fewer Stockouts, Fewer Expedites, Less Downtime



Spare Parts Pooling & Networking

Description: Facilitate parts pooling and sharing across facilities.

CHALLENGE

Siloed inventories increase cost and downtime risk.

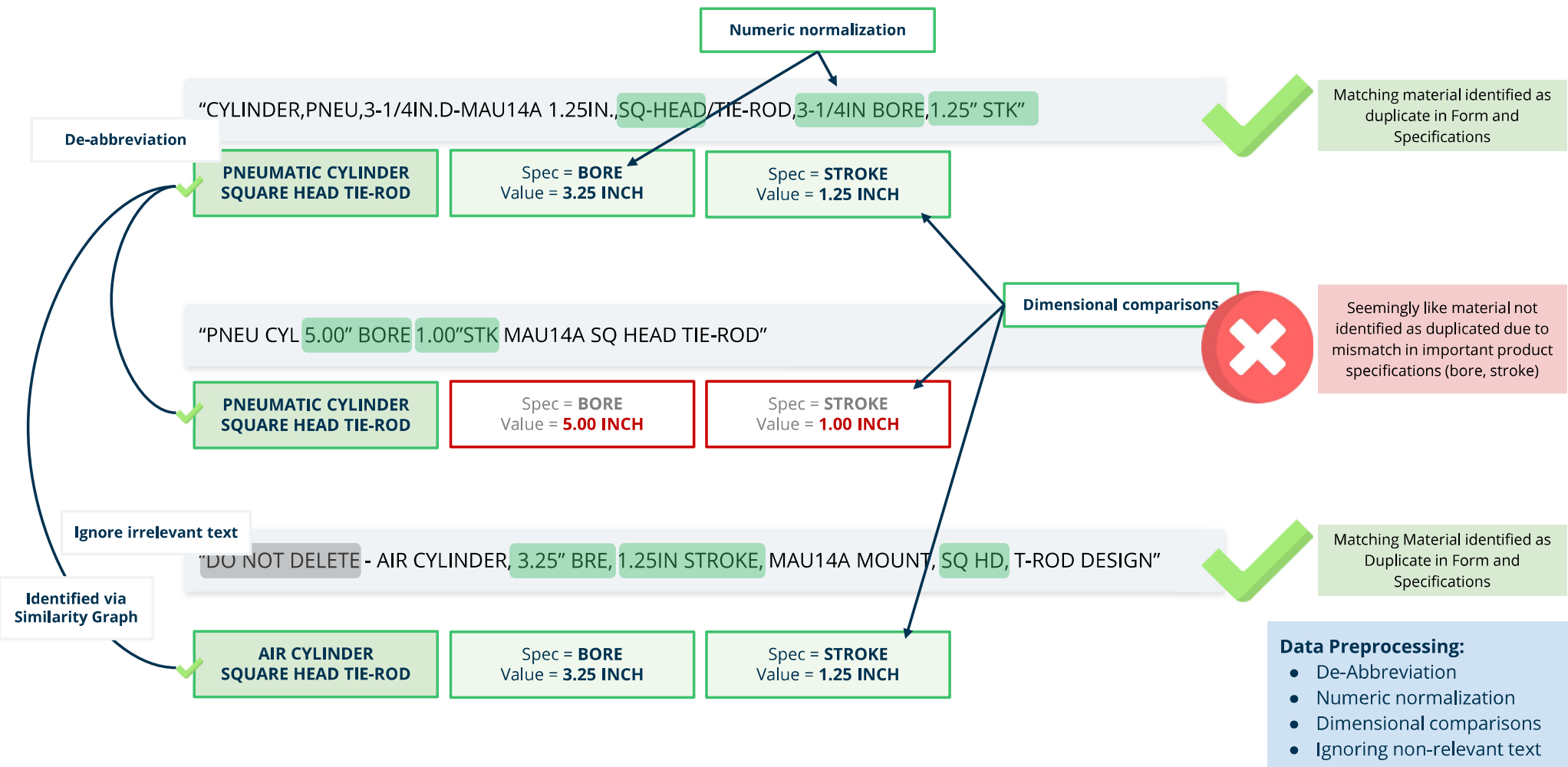
SOLUTION

Intelligent sharing recommendations across regions.

OUTCOME

Improve Redundancy, Reduce Carry Costs, Improve Reliability

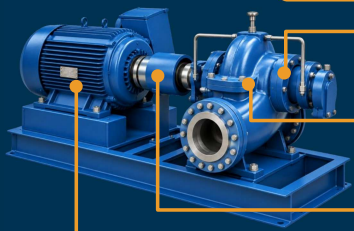
Purpose-Built Large Language Models (LLMs)



Accurate Part(s) Criticality Drives Stock Service Levels

EQUIPMENT / ASSET

P-802



B

ASSET CRITICALITY

- Operations-Critical Pump, Inline Spare
- Material components automatically adopt the asset criticality
- Incorporate Supply Chain Availability & Risks

PUMP MATERIAL COMPONENTS

INHERITED CRITICALITY *(where-used)*

SUPPLY RISK

SERVICE LEVEL IMPACT & AI RECOMMENDATION

902881	Bearing, ball	B	● 3 suppliers · 2-wk lead	B 95% — unchanged
188002	Impeller, 2×12	B	● Sole source · 24-wk lead	A 98% ▲ ESCALATED
241009	Coupling insert	B	● 5 suppliers · 3-day lead	C 90% ▼ DEMOTED
M20110	Motor, AC, 50 HP	B	● 2 suppliers · 4-wk lead	B 95% — unchanged

MATERIAL CLASS OVERRIDES

002011	Degreaser, general purpose	D	● Commodity · many sources	D 80% — set by rule
CLASS RULE · CLEANING SUPPLIES				
909009	PSV, 2-in inlet	A	● Regulatory · no relaxation	A 98% — set by rule
CLASS RULE · RELIEF VALVES				

Business Logic combined with Human in the Loop

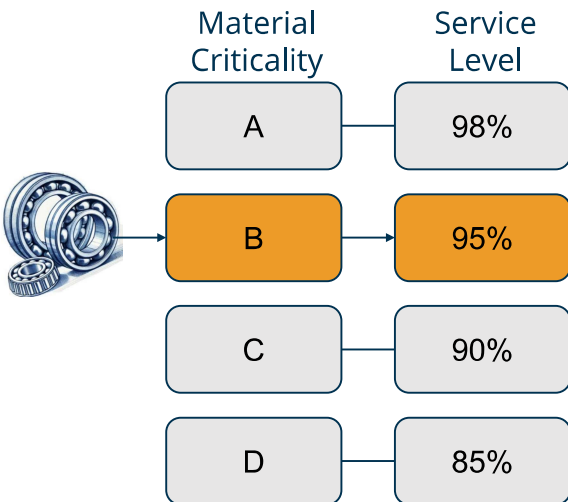
Engineering, Supply Chain and Procurement Align on Methodology



Criticality & Operational Risk Drives Stocking Recommendations

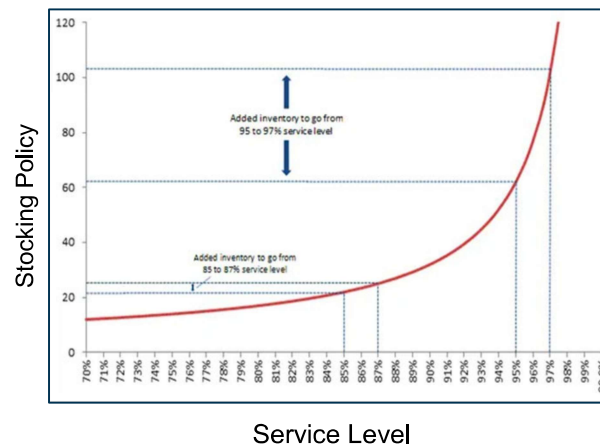
A Risk-based approach to setting Inventory Policies

Criticality-to-Service Level Mapping



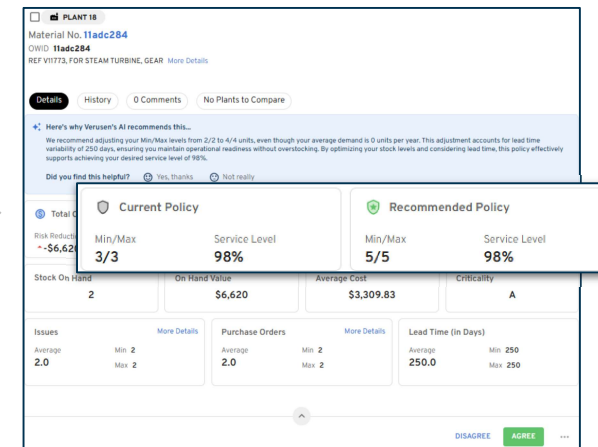
Service-Level Definition: probability of not encountering a stock-out during the next replenishment cycle

Cost-Service Trade-off



Represents **trade-off** between holding sufficient inventory to meet **operational demands** and **minimizing the costs** associated with excess stock

Inventory Policy Recommendation



Material Criticality has significant impact to Stocking Policy Recommendation via Service-Level Assignment

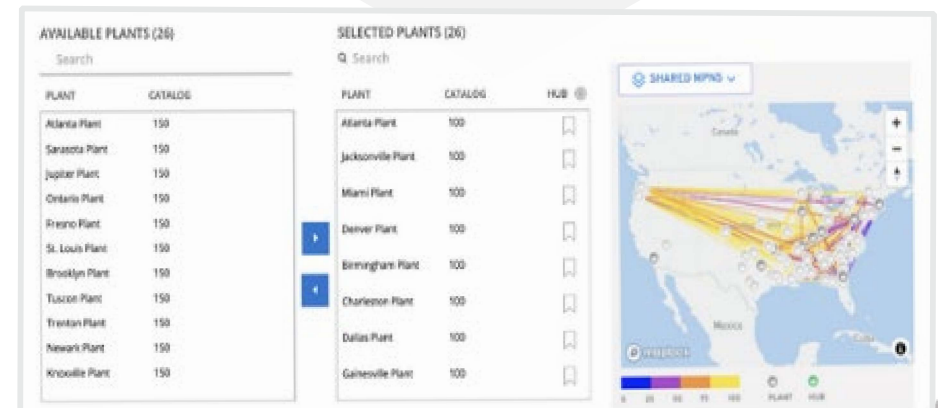
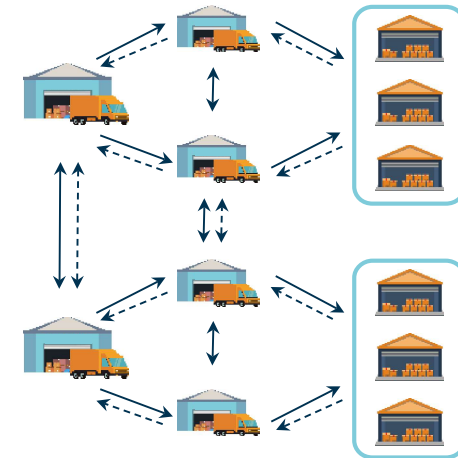


Network Optimization / Parts Pooling

Capabilities

- Simulate & Deploy Network Level Stocking Strategies
- Right Size Stock Levels Across the Regional Networks
- Automate Stock Level Decisioning & Material Reviews
- Shrink Deadstock
- Reduce Carry Costs and Optimize Warehouse Space
- Increase Inventory Service Levels Across Operations

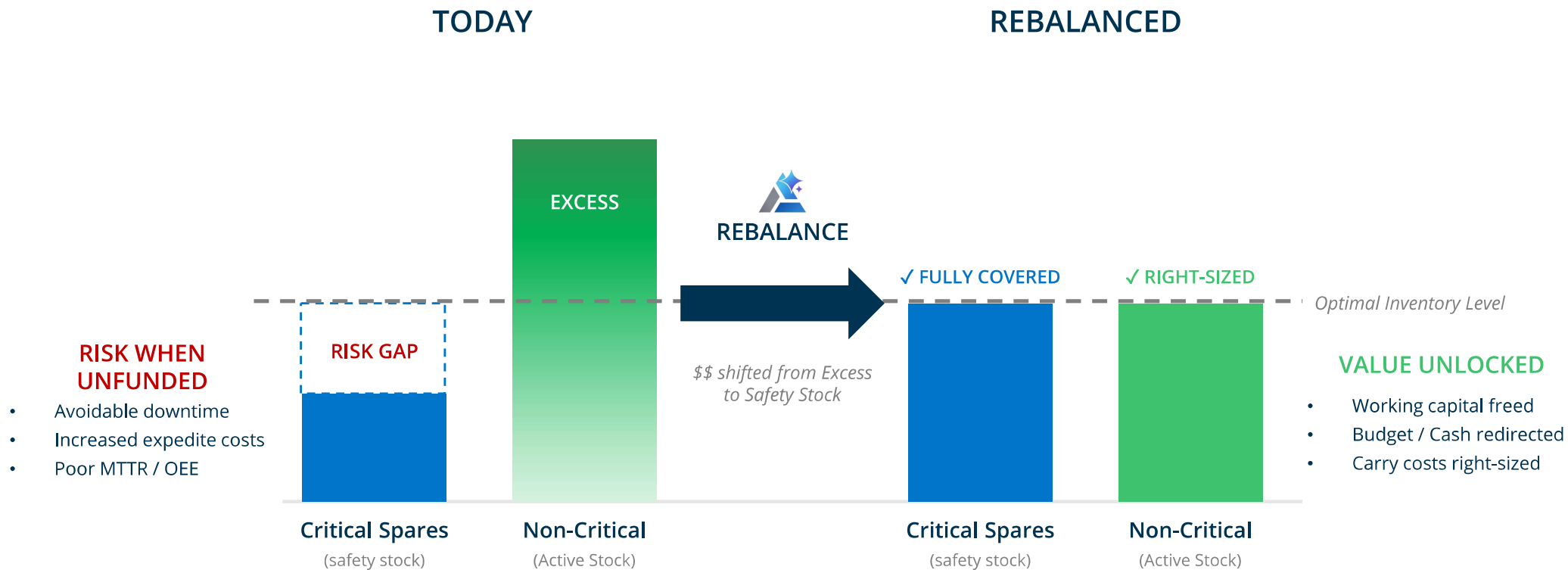
AI Optimized Hub-and-Spoke Networks



03

The Outcomes

Rebalancing Inventory Investment



Dollars move from excess stock you don't need to spares you can't afford to be without.



Global Glass Manufacturer Leverages Verusen AI for **\$28.6 Million** MRO Inventory Savings

*Global industrial, glass manufacturer operating across **23 sites** in the US, UK, EU, and EMEA, managing **2 ERP systems**. They partnered with Verusen to bring **consistency** and **intelligence** to **inventory decisions** across their **network**.*

Business Challenges

- **Outdated** or **inaccurate** stocking policies
- **Excess** and/or slow-moving or obsolete (SLOB) **inventory**
- **Duplicate materials** from inconsistent naming conventions
- **Limited inventory visibility** across sites

Solutions

- **Right-size** stocking levels
- **Reduce excess** and/or SLOB inventory
- **Improve inventory visibility** across sites
- **Enable parts sharing** and transfers

\$1.4 MM
Parts Transfer/Sharing Optimization

\$4.8 MM
Carrying Costs Reductions

\$5.0 MM
Over-Max Reduction

\$5.1 MM
Material De-Duplication

\$5.8 MM
Stocking Policy Optimization

\$6.5 MM
Slow-Moving or Obsolete Inventory Disposition

\$28.6 MM
Savings Opportunity Overview

"Verusen's AI-driven insights quickly revealed the scale of our inventory opportunity across sites we couldn't see before, giving us a clear, data-driven path to act." - Vice President of Operations

Customer Testimonial: Fortune 500 Paper Products Manufacturer

Domtar



"Among our many technology partners, **the Verusen team stands out**—not only for consistently delivering on their commitments, but also for being one of our **true AI success stories**. While many AI initiatives have struggled to meet expectations, **this collaboration has exceeded them**.

We have **reduced our maintenance inventories** and **lowered our spend** by using their AI tools to bridge our multiple ERP systems. The results are **undeniable**, and we hope future projects will be as impactful and reliable as this one."

Gary Phillips Jr

Corporate Procurement - MRO and IT





Questions?

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