



FLUKE®

Reliability

MRO Inventory Amid COVID-19

Glenn Pierce

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Accelix™
Webinar Series



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*Vice President Solution Design,
SDI*

- 20+ years Manufacturing Operations Leadership, Maintenance Management, MRO Supply Chain, and Capital Projects Engineering
- Six Sigma focus
- Certified TPM Instructor
- PMP



Brian Harmon

*Director Procurement,
SDI*

- 20 years of Supply Chain Management, Materials Management and Global Sourcing
- Prior to SDI: Manufacturing and Distribution in Tier 1 Automotive, Automotive Aftermarket, Chemicals
- Data driven, supplier relationship-focused

ABOUT SDI

Think differently.

Our mission is to change the way people think about and manage MRO.

We're **challenging the status quo**, transforming MRO from a category of spend to a value-creating, digital supply chain. From a cost of doing business to a source of innovation and sustainable competitive advantage.

Our vision.

SDI is committed to becoming the global leader in MRO digital supply chain solutions and services. **Leading the way** by constantly challenging the status quo, endlessly innovating, and continually investing in the best and brightest people, processes, and digital technologies that enable significant value creation for our customers and employees.



NORTH AMERICAN OPERATIONS



MILLIONS
INVESTED IN
ANALYTICS AND
SUPPLY CHAIN
INFRASTRUCTURE



CLOUD-BASED
OPERATIONS



COMMITTED TO
QUALITY DATA
STANDARDS,
PORTABILITY &
INTEGRITY



ZEUS
SUPREME POWER OVER
YOUR SUPPLY CHAIN



PARTNERS: INDIRECT/MRO SUPPLY CHAIN ECOSYSTEM

- > ACCENTURE
- > AUTOCRIB
- > CSCMP
- > FAIRMARKIT
- > FLUKE
- > MICROSOFT
- > ORACLE
- > PENN STATE'S
CENTER FOR SUPPLY CHAIN
RESEARCH
- > UNIVERSITY OF TENNESSEE'S
RELIABILITY & MAINTAINABILITY
CENTER
- > UPS
- > VERKADA

POLL QUESTION No. 1

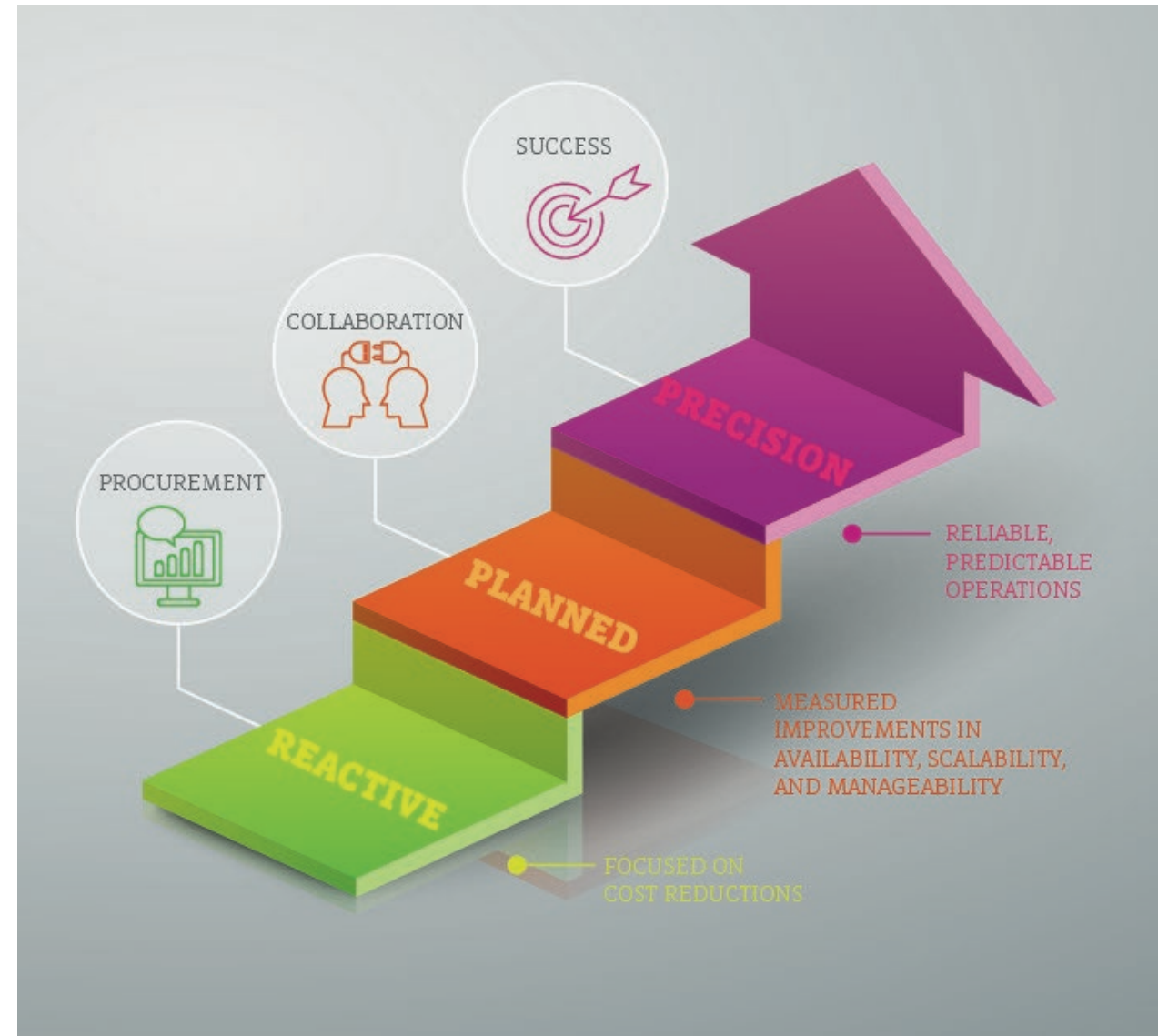


How are your organization's maintenance and reliability teams currently working? (Click only one answer)

- Pretty much the same as in normal times
- Most of our team is on site; a small number is working remotely
- A skeleton crew is on site; most others are working remotely
- We are running but have few or no team members on site
- We are shut down at this time

INVENTORY MANAGEMENT IN THIS NEW WORLD

- Companies that have gotten by with a “break and fix” maintenance and repair strategy need a more proactive approach.
- Preventative and predictive maintenance that maximizes equipment uptime and reduces the need for emergency parts replacement will be crucial in a post COVID-19 world.
- Collaboration between the maintenance and the procurement/supply chain organizations is critical for visibility into supply and demand for reliable, predictable operations
- MRO inventory to support maintenance strategy





MRO Industry Overview

MRO MARKET LANDSCAPE



\$650 *Billion* Global Market*

- \$143 Billion in North America alone
- Tail of indirect spend
- High-volume, low-value transactions, typically < \$400
- Purchase order transaction costs for average MRO PO is \$175-\$250



Maturity of the Market

- Lack of strategic focus
- Lack of innovation: same processes from 10-20 years ago
- No single person/function accountable for outcomes
- High turn-over within MRO functional roles



Disaggregated, Increasingly Global Supply Chains

- Limited to no visibility into future demand and/or supply
- Push system leads to excess and shortages and waste
- Limited ability to gain control and efficiencies



Change is Afoot

- Market shift to eCommerce
- Influence of Reliability, IoT, and EAM
- Enterprise-wide focus on Tailspend and Indirect

Highly Fragmented, Segmented Supply Base

- No one supplier has 5% share
- General and specialty distributors (local, regional, national)
- OEMs
- Amazon and online catalogs
- Evidence of industry consolidation

*Source: Q2 2019 BEROE Category Intelligence on MRO



FLUKE

Reliability

MRO CHALLENGES – Unintended Consequences

75% *Limited Data-Driven Decision Making*
75% of Materials inventory and purchase data is inactionable.

25% *Lost Labor Productivity*
25% of time is spent looking for parts.

30% *Wasted Working Capital*
30% of stock will never be used. It's tied up in excess and obsolete inventory.

50% *The Waiting Game*
50% of work orders cannot be completed because technicians are waiting on parts.

24 *Aging Assets*
24 years – the average age of manufacturing assets & equipment. Aging assets drive unique maintenance challenges.

Source: Penn State Center for Supply Chain Research,
Society for Maintenance & Reliability Professionals,
Council of Supply Chain Management Professionals,
SDI's 48 years of market intelligence

42% *Stock-Outs and Unplanned Downtime*
42% of all unplanned downtime can be attributed to poor internal supply chain practices.

25% *Renegade Spend*
Less than 25% of all spend is going to contracted suppliers.

65% *Reactive, not Predictive*
Greater than 65% of all demand is reactive. The more informed you are, the less reactive you'll be to supply chain changes.

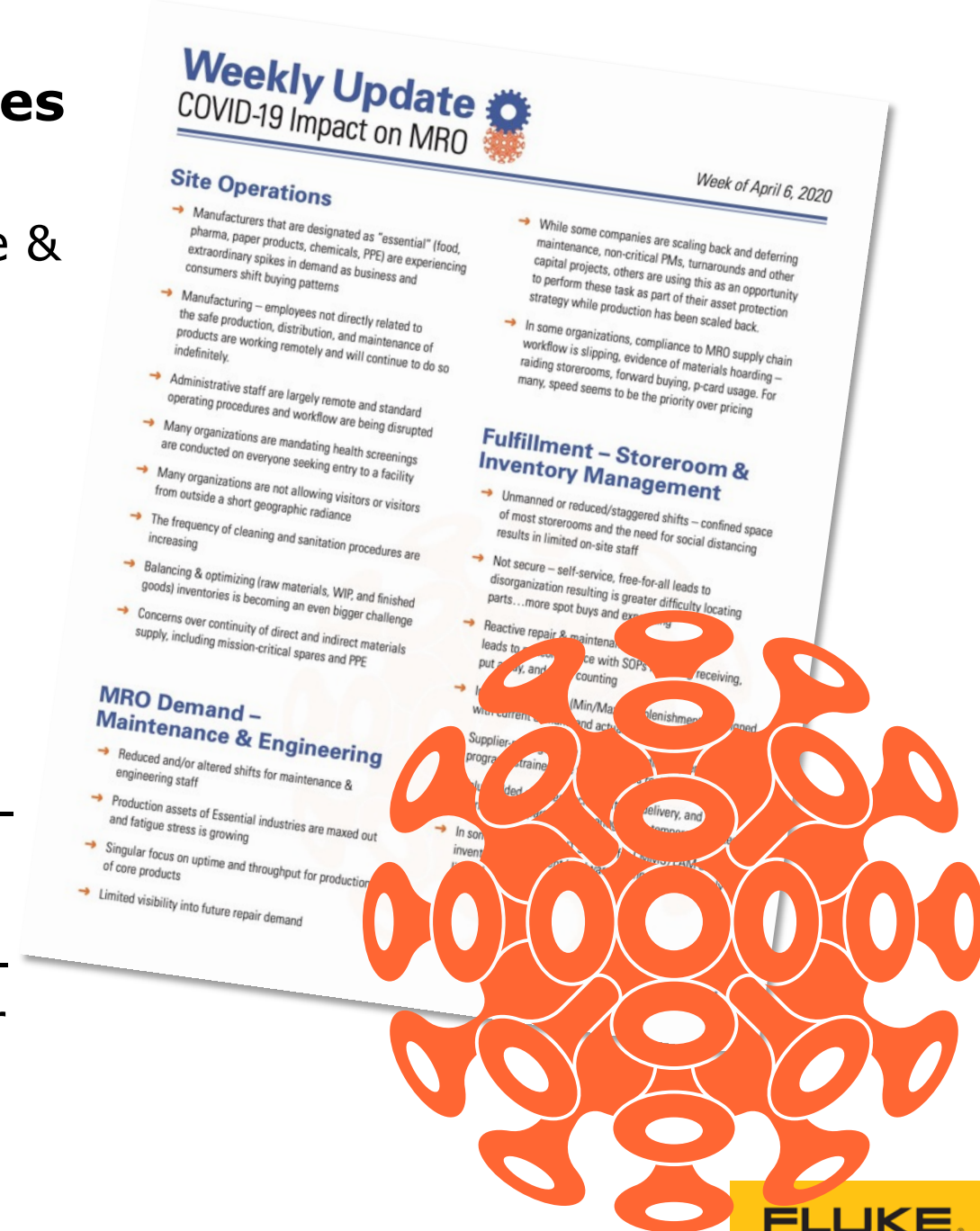
30x *Deferred Maintenance Nightmare*
The cost of deferred maintenance could potentially be 30 times that of the early intervention costs.

97% *Incorrect Lead-Times*
97% of all lead-times are inaccurate, while work order back logs continue to grow.



MRO CHALLENGES – In Challenging Times

- Reduced and/or altered shifts for maintenance & engineering staff
- Production assets of essential industries are maxed out and fatigue stress is growing
- Singular focus on uptime and throughput for production of core products
- Unmanned or reduced/staggered shifts – confined space of most storerooms and the need for social distancing results in limited on-site staff
- Storerooms not secure – self-service, free-for-all leads to disorganization resulting in greater difficulty locating parts ... more spot buys and expediting





ALIGNING MRO SUPPLY CHAIN WITH MAINTENANCE STRATEGY

POLL QUESTION No. 2

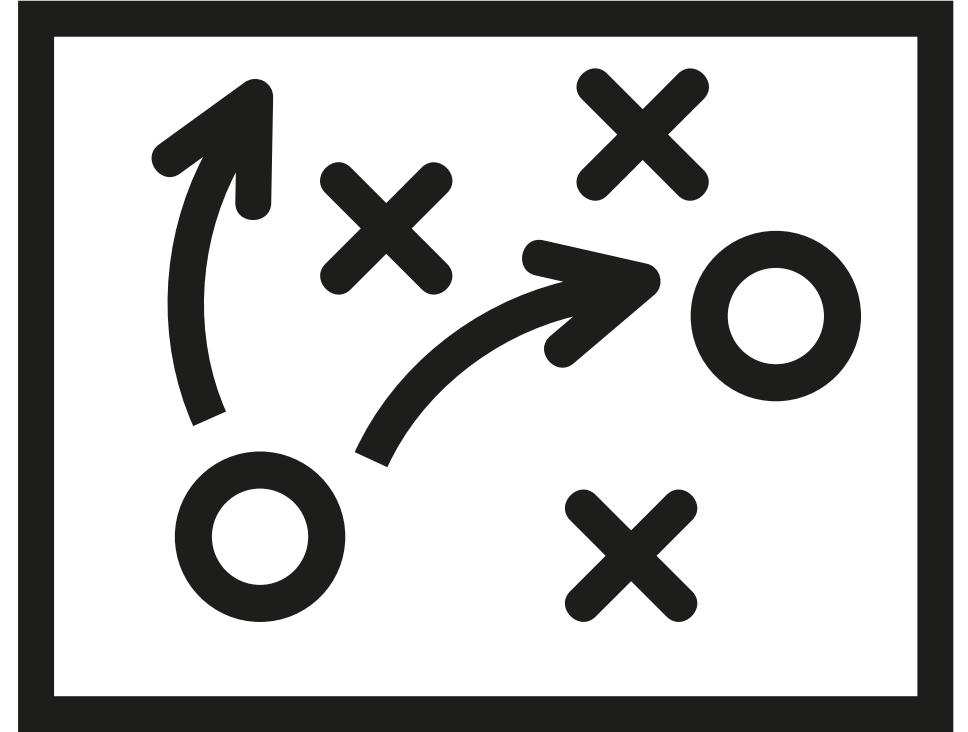


How strong is the collaboration between maintenance and the supply chain in your organization? **(Click only one answer)**

- We communicate regularly and our systems are integrated
- We communicate regularly but our systems are separate
- We operate fairly independently, except for emergency needs
- We don't really get along

SUPPLY CHAIN TACTICS TO MITIGATE COVID-19 IMPACT

- Make MRO a part of the plan
- Increase visibility into MRO demand
- Improve inventory accuracy
- Identify and inventory critical spares
- Identify country of origin on my critical and high usage items
- Assess relationships with my key suppliers
- Evaluate scheduled turnarounds that could be impacted



DEMAND MANAGEMENT

- Reuse of certain commodities
- Upgrade to reusable and or repairable parts and materials
- Repair – even those items that would previously have been replaced
- Share inventories across locations
- Look at purchase history to secure supply on past purchases to be proactive

DEMAND
Management

SUPPLY MANAGEMENT

- Conduct physical inventory to understand current inventory levels including “squirrel” stores
- Secure storeroom 24/7
- Reduce - rationing / control of supply (point of use vending can reduce consumption by up to 30%)
- Consider adjusting min/max set points and replenishment quantities
- OEM commercialization
- Part reengineering for ***critical spares***, long lead time items, and or obsolete items

SUPPLY
Management

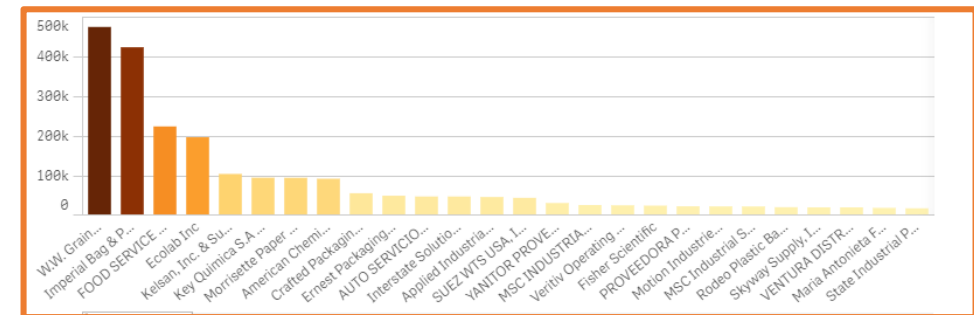
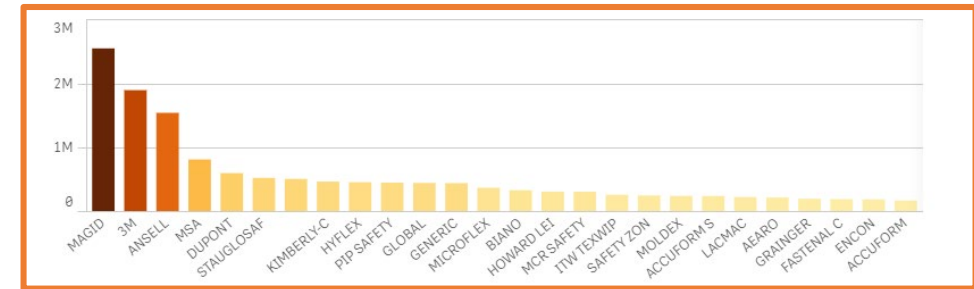
PARTNERING WITH SOURCING

- Initiate guerilla sourcing tactics
- Confirm form, fit, and function to explore alternative parts and materials
- Network, benchmark, share best practices with industry peers
- Explore alternative/nontraditional sources of supply including online marketplaces, repair houses, suppliers to other industry verticals, etc.
- Go direct to manufacturer(s)
- Issue forward buys / blanket orders to reliable supplier for long lead-time items, high-usage items, and critical spares

SOURCING
Management

QUALITY DATA AND ANALYTICS

- Cleansed data is used to identify additional opportunities for improvements within the MRO supply chain — supplier reduction, item standardization, reduction of inventory, etc.
- Analysis on cleansed data allows you to ask more questions:
 - Who are my top PPE manufacturers?
 - Who are my secondary, tertiary suppliers for janitorial supplies
 - With which suppliers do I have contracts?



**ACTIONABLE DATA:
THE FOUNDATION FOR EVERYTHING**

POLL QUESTION No. 3



Is your data actionable?

(Click only one answer)

- Yes, absolutely!
- Maybe, depends on what day it is
- Not at all
- So, what is actionable data anyway?

ACTIONABLE DATA

- Ability to identify and find secondary and tertiary sources of supply, need more than vendor info
- Substitution for products with same form, fit, function (from the same supplier or other suppliers)
- MFG, MFG part number
- Could include equipment model numbers, drawings, country of origin, other attributes
- Essential for OEM commercialization; can't commercialize it if you don't know what it is
- Difficulty in analysis on spend, forecast modeling or any root cause failure analysis
- Unable to make informed purchasing decisions....





REDEFINING CRITICAL SPARES IN THIS NEW WORLD

PROPERLY IDENTIFYING CRITICAL SPARES

- Determine Asset Criticality
 - Impact of Failure
 - Frequency of Failure
- Stock or Non-Stock
- OEM Spares
 - Custom Make Parts
 - Commercially Available
- Risk Analysis
 - Single Source of Supply
 - Financial Stability of Supplier



REDEFINING “CRITICAL” SPARES

PRE-COVID-19 CRITICAL CRITERIA

Failure has immediate impact on production, safety, environmental, etc..

Are parts custom made?

What is the lead time?

Are parts available through multiple suppliers?

High volume items in exclusivity contracts?

COVID-19 CRITICAL CRITERIA

New mandates/regulations for safety?
Consider that PPE is now critical.

What is the country of origin? How is the lead-time impacted by quarantine?

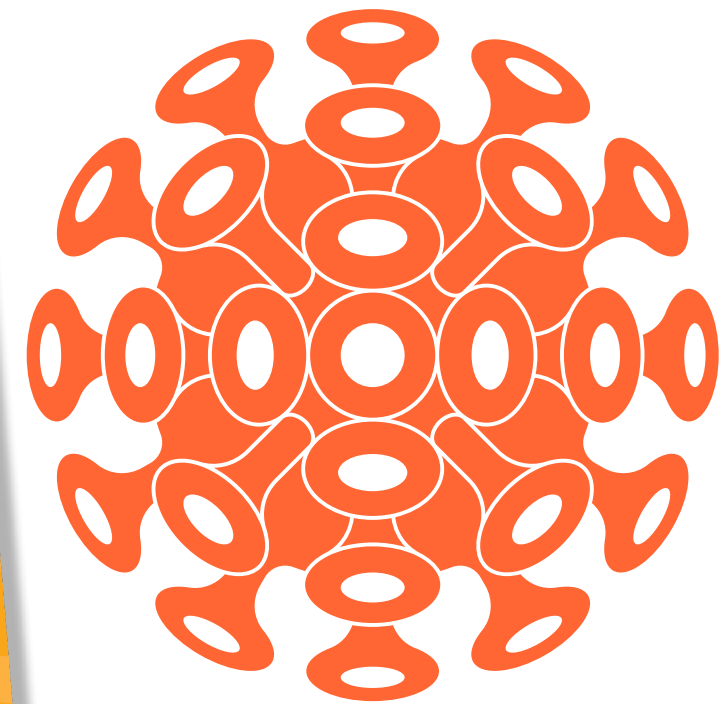
JIT lead-times strained

OEM or commercially available alternates?

Geographical location of alternate suppliers, even at premiums to ensure continuity.

Partnering for Success

- Collaboration between the maintenance and the procurement/supply chain organizations is critical for visibility into supply and demand for reliable, predictable operations
- Supply chain transparency and visibility begins with clean, quality data and is supported by ongoing master data management
- Explore alternative/nontraditional sources of supply including online marketplaces, repair houses, suppliers to other industry verticals, etc.
- Assess the connections within your MRO supply chain post-COVID



Supply Chain Assessment

- *Data, Systems, and Technology*
- *Sourcing and Procurement*
- *Warehouse, Storerooms, and Inventory*
- *Engineering and Maintenance*
- *Finance and Accounting*

QUESTIONS?



Thank you!

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