



### MRO Demand – Maintenance & Engineering

- 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
- Limited visibility into future repair demand
- While some companies are scaling back and deferring maintenance, non-critical PMs, turnarounds and other capital projects, others are using this as an opportunity to perform these tasks as part of their asset protection strategy while production has been scaled back.
- In some organizations, compliance to MRO supply chain workflow is slipping, evidence of materials hoarding – raiding storerooms, forward buying, p-card usage. For many, speed seems to be the priority over pricing

### Supply Continuity – Sourcing & Procurement

- Supply chain personnel working remotely limits collaboration and communication with suppliers and internal customers
- Systems limitations cloud visibility into critical supply chain information including storeroom/warehouse/free stock inventory levels
- Primary focus is continuity of supply, dealing with primary, secondary, and tertiary sources of supply including many non-traditional sources such as marketplaces
- Growing incidence of spot buying and “blind”/surplus buying and expediting of orders

- P-card and other off-contract spend at plant level further clouds visibility into true demand and on-hand supply
- Corrupt (MRO) parts data severely limits Sourcing’s ability to quickly identify functional equivalents from alternate suppliers
- Limited to no knowledge of “critical” spares, inventory levels in house and with suppliers, country of origin, and or lead times
- Forward buying 3-6 months’ supply now to ensure availability further stresses already lean supply chain

### Emerging Lessons Learned

- MRO supply chain status is quickly evolving to essential and, in many cases, mission critical
- Most firms have no risk management plan related to MRO supply chain; it is often overlooked/ignored in enterprise-wide risk management
- Global (MRO) supply chains with lean/just-in-time inventories have proven to be a risk multiplier during this pandemic and subsequent quarantine
- Most organizations have not formally identified and managed their critical spares & supplies, many of which are manufactured in Asia
- Personal Protective Equipment (PPE) will take on mission-critical status across all industries and institutions
- In some categories, up to 35% of supply originates in Asia, with a high concentration in China
- Bad data (spend and inventory) has made it exceedingly difficult for buyers to source materials from other suppliers



## Suppliers – OEM, Distributors, Marketplaces

- Categories in short supply include cleaning products; cleaning supplies; disinfectants; hand sanitizer; temp labor; medical supplies; N-95 Respirators; paper products; personal protective equipment (PPE) – masks; surgical masks; and toilet paper.
- Multiple categories where sources are located in Asia and Europe are being impacted today and will continue to be for months to come as many plants have been, and continue to be, shut down or are producing at less than 100%. Smaller, local parts suppliers and machine/fabrication shops are struggling with limited staffing. Lead times for custom parts are extending and promise dates are being missed.
- Pricing – steady, some categories spiking due to shortages, growing influence of marketplaces provides transparency and mitigates incidence of gouging
- Suppliers are significantly reducing credit limits to force pre-payments or quick turn around payments
- Inventory levels are thin as end users are buying ahead due to fear of future shortages
- Visibility into (OEM) supply chain and timing for delivery is limited as information is not readily available or reliable, particularly from international suppliers
- Suppliers are rationing supply with prioritizing orders for government, first responders, and hospitals. Existing customers with contractual obligations, and strategic partners (GPOs, Marketplaces, Integrated suppliers, etc.)
- Many distributors and OEMs have stopped taking on new customers altogether

- North American OEMs and distributors are also struggling to keep pace as shelter-in-place rules constrain resources at a time when they are inundated with customer orders and order status inquiries
- MRO supply chains are likely to experience bull whip effects in mid-summer once domestic inventories are depleted and usage returns to normal
- Restricted access to facilities and the shift to e-commerce favors larger, broadline suppliers, large national distributors, and marketplaces (Amazon Business, eBay, Alibaba, etc.) over local suppliers

## Logistics & Last Yard Delivery

- Will-call and shopping at brick & mortar wholesale and retail locations becoming limited due to new hours of operation and store traffic restrictions
- Logistics capacity is growing more and more constrained as consumers and businesses (essential) shift to e-commerce
- Receiving at sites and proof of delivery (POD) not always available
- Items misplaced or lost at the dock, not making their way to the storeroom or to where they are needed

## Fulfillment – Storeroom & Inventory Management

- Global supply chains coupled with JIT inventory is proving challenging
- Unmanned or reduced/staggered shifts – confined space of most storerooms and the need for social distancing results in limited on-site staff



- Not secure – self-service, free-for-all leads to disorganization resulting in greater difficulty locating parts... more spot buys and expediting
- Reactive repair & maintenance environment – leads to noncompliance with SOPs including receiving, put away, and cycle counting
- Inventory set levels (Min/Max) – replenishment misaligned with current demand and actual inventory levels
- Supplier-managed free stock and vending replenishment programs strained due to site access restrictions
- Value-added services such as kitting, delivery, and warranty/3rd-party repair management temporarily halted
- In some organizations, IT support for CMMS/EAM and inventory management hardware (scanners) increasingly limited
- Administrative staff are largely remote and standard operating procedures and workflow are being disrupted
- Many organizations are mandating health screenings are conducted on everyone seeking entry to a facility
- Many organizations are not allowing visitors or visitors from outside a short geographic radiance
- The frequency of cleaning and sanitation procedures are increasing
- Balancing & optimizing (raw materials, WIP, and finished goods) inventories is becoming an even bigger challenge
- Concerns over continuity of direct and indirect materials supply, including mission-critical spares and PPE

## Site Operations & Access

- More businesses are talking about planning for the re-entry into the workforce. Organizations are planning to support employees and families, updating leave policies and other support activities like mental health.
- Manufacturers that are designated as “essential” (food, pharma, paper products, chemicals, PPE) are experiencing extraordinary spikes in demand as business and consumers shift buying patterns
- Manufacturing – employees not directly related to the safe production, distribution, and maintenance of products are working remotely and will continue to do so indefinitely.

## Mitigation Strategies

- Conduct a wall-to-wall inventory of each storeroom and stocking location
- Identify critical spares, on-hand inventory, and reconsider minimum set points
- RFI legacy suppliers to obtain manufacturer name and manufacturer part number for items purchased in past 12 months, emphasis on critical spares and high-turn items
- Identify secondary and tertiary sources of like-for-like products as well as functional equivalents
- Consider online marketplaces as a source for tail items and spot buys
- Additive Manufacturing/3D Printing can be an alternative source for stocked out items with long lead times or where supply is no longer commercially available

### About SDI

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