



REPORT

Maintenance in the era of COVID-19

- navigating the path ahead



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How have your maintenance processes stood up to the COVID-19 crisis? Even if you have kept output flowing, what you do next may determine the future of your whole organisation.

With staff furloughed and contractors prevented from working by social distancing measures, some organisations have seen routine maintenance suspended. For others, like the food and beverage industry and medical suppliers, production has ramped up, potentially squeezing out maintenance time.

Despite these challenges, the crisis may usher in positive change by prompting firms to move to a digital future where technology monitors the condition of assets, data drives maintenance schedules and you have the right parts when you need them.

The challenge

As in so many areas of life, the pandemic has shone a harsh light on maintenance operations. And it’s not as if everything was optimal before the virus struck.

Over half of supply chain and procurement professionals responsible for the category of maintenance, repair and operations (MRO) were facing pressure to reduce operational budgets, according to the Indirect Procurement Report 2020 – The evolution of MRO procurement: adapt and thrive¹, published by RS Components and based on data from the Chartered Institute of Procurement & Supply (CIPS).

Top business pressure



Source: RS Components 2020 Indirect Procurement Report



One third said they needed to improve asset performance, while companies were reported to be using an average of 82 suppliers. Then along came COVID-19, disrupting supply chains and forcing companies into emergency cost-cutting measures as orders dried up overnight.

“COVID has exposed how fragile some supply chains are,” says Alex Davies, Head of Value-Added Services at RS Components. “COVID has accelerated certain supply chain initiatives by up to five to ten years.”

David Loseby, Group Chief Purchasing Officer at Rolls-Royce, says the effects of the lockdowns will be felt for months and even years to come. “I don’t think we are necessarily seeing all the manifestations of what this pandemic has done yet.

“I think there’s more to come. And the reason I say that is because the delay will manifest itself in different ways and different supply chains.”

Loseby says his company, like many others, needed better awareness of the risks the pandemic was creating. “One of the lessons we learned is that we don’t have real-time risk management – it doesn’t exist, but we need it. We’ve now set up a project targeted towards driving the use of artificial intelligence to generate insights, closer to real-time information, to allow us to take action.”

Over 60% of companies had seen sales decline as a result of the COVID-19 pandemic, according to a report in September from Make UK, the manufacturers’ organisation². Although 31% said they currently had no staff furloughed, two thirds have not ruled out making staff redundant in the following six months.

Closed borders and countries hoarding supplies for their domestic markets hit supply chains. And it wasn’t just components that could not cross borders. Specialist engineers and contractors were unable to travel³, disrupting third-party maintenance schedules.

Even companies with world-class maintenance processes found it hard to adapt to the new reality. “Internal maintenance organisations effectively went one of two directions,” explains Richard Jeffers, Director for Industrial Solutions at RS Components.

“If they were part of an industry that was negatively impacted by the pandemic, many pulled forward loads of routine maintenance. In the rail industry they brought rolling stock in for service that potentially wasn’t going to be maintained until later in the year.

“Industries which saw an increase of work, particularly in the medical field, were having to cut down on plant maintenance because of production demand.”

Where there are maintenance backlogs, companies now face the challenge of prioritising what to do first.

Playing catch up

For some organisations, setting urgent maintenance priorities will be a no-brainer. Where assets have stood idle or missed routine maintenance in the rush to complete pressing orders, the need is now obvious.

Mothballing assets can cause its own problems. Boeing recently alerted airlines to a problem with a bleed air valve⁴ in its 737 airliners. When engines were restarted after three or more months out of use, the valve became stuck, causing engines to fail in flight and prompting a rush to fit replacement parts.

It’s just one example of how not using assets can be as harmful as running them too much. “People think that if you run your packaging line longer, you’re going to see more failures. In many cases, the opposite is true,” says Jeffers.

“As long as you’re caring for it, cleaning, inspecting, lubricating and tightening the components as they operate, then actually it’s quite common to see lower levels of failure as you run the plant more.”

The mindset in March, according to Jeffers, was to ban everybody from coming to site, meaning that a lot of routine third-party maintenance was put on hold. With many organisations using specialist contractors, internal teams could not fill in the gaps.

Now companies are competing with each other to find the qualified contractors they need to catch up.

That means it’s vital to create a list of critical tasks that need to be completed to ensure production can either resume smoothly or continue uninterrupted.

This is particularly important where you have ageing assets. In the Indirect Procurement Report 2020, 42% of procurement professionals said that maintaining ageing assets was a key business challenge while a third said they faced pressure to improve asset performance.

Biggest drivers of downtime



Source: RS Components 2019 Indirect Procurement Report (p10)



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Richard Jeffers, Director for Industrial Solutions, RS Components

For these companies, fixing the immediate problems is just the start of a longer journey to arrive at a place where unplanned downtime can be reduced or eliminated.

It is here that data can be harnessed to monitor the condition of assets and protect against future breakdowns.

Getting ahead of the game

The organisations that are able to emerge strongest from the pandemic are those who are prepared to change the way they work: As Albert Einstein once said: “In the midst of every crisis lies great opportunity.”⁵

“The businesses that are going to survive are the ones who pivot, adapt and realise they need to make a fundamental structural review of their cost base,” says Jeffers.

“If they accelerate their journey towards world-class maintenance, it will allow them to take significant cost out in the longer term.”

He says it is “still very early days” for many companies on the road to fully digitising maintenance processes, but openness to such change is crucial to success and will ultimately lead to world-class maintenance.

“It’s about really understanding why things fail and what you need to do to identify failure and to mitigate the impact of that failure. Things like vulnerability-centred maintenance and Total Productive Maintenance (TPM) are not new initiatives. They have been around for 40 years,” he says.

“The fundamentals of Clean, Inspect, Lubricate and Tighten – basic asset care, identifying leading indicators of failure and then reacting to those leading indicators – they are what well-run maintenance organisations do.”

Digital tools like condition monitoring, vibration monitoring and oil analysis make it easier to practise world-class maintenance. They not only provide advance warning of failure, but the data they generate provides engineers with insights into how to plan maintenance operations.

For example, data about the performance of individual components can be used to schedule planned maintenance based on what actually happens to assets in your own organisation, rather than relying on the manufacturer’s timetables.

There has been “a huge acceleration” in interest in Industrial Internet of Things (IIoT) solutions as a result of the pandemic according to Peter Malpas, RS Components’ President for EMEA. He describes the appetite for change as being “turbocharged” by the crisis.

As PwC pointed out recently,⁶ the objective of all COVID-era business strategies must be to improve resilience. Although each crisis is different, the fundamentals of improving processes and reducing risk apply whatever the future holds.

Malpas says IIoT solutions in digitally connected factories – harvesting data from condition monitoring and analysing it using machine learning and AI – has the power to transform business resilience.



Data-driven transformations

Last year, even before the virus struck, maintenance engineers were facing pressure to do more with less.

The Indirect Procurement Report 2019 recorded two-thirds facing cost pressures, an increase on the previous year. COVID-19 has only intensified those pressures.

Digital transformation is a clear route to reducing costs, but Jeffers says getting more out of your existing assets can be a first step. Monitoring performance to see where improvements can be made is vital.

“Your average packaging line is probably running at 50% performance. If you can get that from 50% to 60% performance, that’s 20% more volume getting through that packaging line, every day,” he says.

“If you’re running a four-shift operation, that allows you to take an entire packaging shift out. Businesses that think like this are going to be the ones who survive, the ones who use this crisis as the catalyst to make these transformational changes to their business.”

Getting more out of existing assets is going to mean investment – and that’s a tough call in today’s environment. But there is growing evidence that data-driven maintenance processes can deliver significant savings.

A recent McKinsey report on maintenance across the European rail industry⁷ said costs could be cut by almost one-third by using data from IIoT-connected monitoring devices and AI analysis tools.

The report said that data-driven maintenance could improve punctuality and avoid breakdowns by gathering information about the performance of all the assets in the rail ecosystem, from track to trains and signalling.

Condition monitoring – using Industrial Internet of Things (IIoT) connected sensors to measure component performance in real time – plays a key role in avoiding unplanned maintenance and production outages.

From measuring vibration levels to detecting debris in oil, this technology can avoid costly breakdowns by giving advance warning of trouble ahead. But it can also avoid lost production if a component failure goes unnoticed.

A leading biological products company suffered a sterilising oven fan breakdown which meant containers for blood plasma products were not sterile. The batch was lost. So, the company turned to RS Motion to install sensors on its fans to avoid a repeat of the issue.

Condition monitoring also has part to play in improving maintenance regimes by using data from sensors to develop predictive maintenance schedules based on the actual performance of components in your own production environment.

“If you want to be here in 10 years’ time, 20 years’ time, then you need to be engaged with your finance colleagues about the value of maintenance, rather than the cost of maintenance.”

Richard Jeffers, Director for Industrial Solutions, RS Components

Conclusions: Building alliances

Getting it right is going to be even more important as businesses operate with fewer people in the future, making digital tools even more essential to maintenance organisations, says Davies.

One of the best ways to avoid unplanned downtime in a world with fewer staff is to use condition monitoring tools like those supplied by RS Monition. By constantly monitoring machines in action – checking, for example, levels of vibration – it is possible to spot faults before they become serious enough to warrant shutting down the line.

Oil analysis can also give advance warning of trouble ahead by spotting wear debris in oil, lubrication problems being a major source of breakdowns. And the data supplied by condition monitoring sensors can help plan routine maintenance by showing how components wear in real life.

Condition monitoring on its own is not enough, says Davies, it’s about engaging all the stakeholders and building a business case. “The big piece sits around the savings that can be achieved from that. And it’s about working with an organisation that can help, not only diagnose and specify what’s needed from a technical perspective, but can also help the maintenance engineer navigate through the procurement world to demonstrate what it’s going to deliver from a financial perspective.”

Building alliances and working with suppliers is crucial. Within organisations, engineering, maintenance, procurement and finance can tend to work in their own silos. So, getting everyone’s buy-in is vital if you are going to make a presentation to the leadership team for investment.

As well as improving the performance of your company, this kind of approach can be seriously career enhancing, according to John Glen, chief economist for The Chartered Institute of Procurement & Supply.

“If you’ve helped the business pivot, if you can sort out the problem, then all of a sudden the senior executives are sitting around the board table thinking, ‘Well, hang on a minute, this person needs to be in the room more often’,” he says. “It’s how you get invited into boardrooms – and you can actually do something useful when you’re in there.”

Jeffers agrees that this is where opportunity lies: “I would say that building alliances has always been critical to running a world-class maintenance organisation.

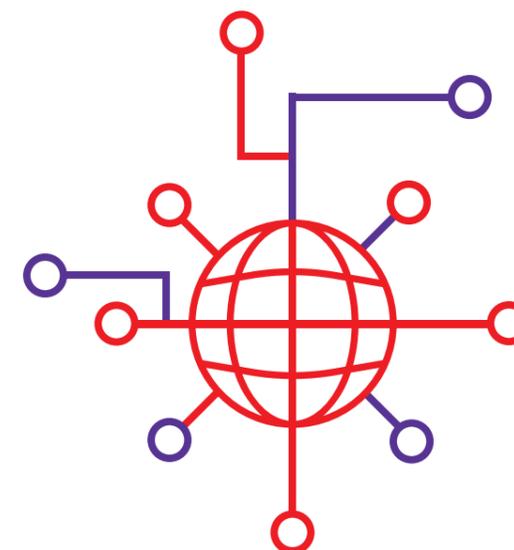
“If you want to be here in 10 years’ time, 20 years’ time, then you need to be engaged with your finance colleagues about the value of maintenance, rather than the cost of maintenance. And you can do that by having broad-based relationships between operations and finance.

“Because, ultimately, maintenance is an investment the same as any other investment and it needs to pay back.”

If you work in a maintenance, supply chain or procurement role, it is likely you will have been affected by the issues discussed here. You probably have questions of your own about facing up to the challenges of the pandemic and being best-placed for recovery.

RS Components has expert advisers on hand to talk through these and related issues and discuss how we’ve helped organisations like yours. One of our team will be in contact shortly.

If you have been forwarded a copy of this report and you would like to speak with one of our expert advisers, please email us at connectedthinking@rs-components.com.



Source:

- 1 **Indirect Procurement Report 2020 – The evolution of MRO procurement: adapt and thrive, RS Components**
<https://www.rs-connectedthinking.com/en/insights-1-1/2020-indirect-procurement-report>
- 2 **Manufacturing Monitor 07/09/2020, Make UK**
<https://www.makeuk.org/insights/publications/manufacturing-monitor-07092020>
- 3 **Reducing maintenance operations without compromising on efficiency during the COVID-19 period, Cushman & Wakefield**
<https://www.cushmanwakefield.com/en/insights/covid-19/reducing-maintenance-operations-without-compromising-on-efficiency-during-the-covid-19-period>
- 4 **FAA requires additional post-storage B737 engine inspections after several in-flight shutdown incidents, Aviation Safety Network**
<https://news.aviation-safety.net/2020/07/24/faa-requires-additional-post-storage-b737-engine-inspections-after-several-in-flight-shutdown-incidents/>
- 5 **In the midst of every crisis, lies great opportunity, quotetab**
<https://www.quotetab.com/quote/by-albert-einstein/in-the-midst-of-every-crisis-lies-great-opportunity>
- 6 **Crisis and resilience, Working together to deliver clarity, control and confidence in a crisis, PWC UK**
<https://www.pwc.co.uk/issues/crisis-and-resilience.html>
- 7 **Using analytics to get European rail maintenance on track, McKinsey & Company**
<https://www.mckinsey.com/industries/public-and-social-sector/our-insights/using-analytics-to-get-european-rail-maintenance-on-track>

