HARNESSING THE POWER OF PROACTIVE MAINTENANCE

Help "fix" issues before they disrupt workflow or cause costly shutdowns and necessitate emergency repairs.

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Harnessing the Power of Proactive Maintenance

As digitization leads the way forward for print manufacturing, print service providers (PSPs) now can use machine learning and data analytics to shape processes and guide important decisions. Both capabilities are integral to Industry 4.0.

They provide PSPs with the power to proactively optimize the management, conservation, and ROI of their printing equipment as well as achieve higher levels of operational productivity and efficiency.

Benefits of Being Proactive

Common knowledge suggests it's better to anticipate a problem and take care of it before it crops up — that's basically the definition of being proactive. Common knowledge also says everything mechanical is going to need maintenance at some point in time.

> ### Everything mechanical is going to need maintenance at some point. Digital print is no exception.

Digital printing equipment is no exception. A reactive approach to maintenance can be expensive, disrupt workflow, and increase risk, but advanced knowledge and early action can prevent problems, significantly improve performance, and extend the longevity of these valuable capital assets.

That's why, at Canon Solutions America, Proactive Maintenance is at the core of our customer-first support and service approach.
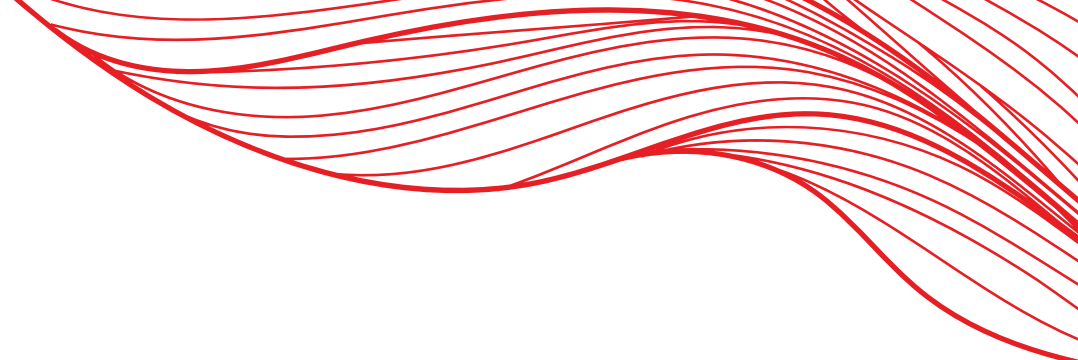
This philosophy encompasses not only preventive but also predictive and performance-based tactics that can help PSPs:

- Avoid costly unexpected downtime and lost output
- Find and fix potential issues before they require extensive repairs
- Reduce unnecessary routine maintenance
- Prolong reliability and performance of printing equipment
- Protect critical investments

Preventive vs. Predictive Maintenance

Both Preventive and Predictive Maintenance rely heavily on data, but the types of data and how they are applied differ.

Preventive Maintenance is familiar to anyone who owns a car. Typically, the timing and type of scheduled maintenance, like oil changes, is based on best practices, generic recommendations, and aggregated data for similar vehicles. Preventive Maintenance is much the same on the print shop floor. Routine maintenance includes things like cleaning filters or replacing belts. Having digital printing equipment inspected, tested, and tuned up by a qualified technician on a preset timetable according to manufacturer recommendations is standard operating procedure. There can be disadvantages to relying solely on this approach, however. It's possible to address issues that don't even exist or replace parts prematurely, incurring higher inventory, labor, and downtime costs than necessary.

But the single most important consideration is scheduling preventive maintenance to reduce the likelihood of unplanned maintenance interrupting large production runs or important deadlines.

To aid customers in this effort, Canon offers Predictive Maintenance solutions — a systematic and holistic approach to avoiding costly malfunctions and downtime and helping achieve maximum uptime. Made possible by Industry 4.0, it yields accurate, immediate,

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condition-based information PSPs can use to time and perform maintenance tasks more strategically and to manage the supply chain more efficiently. It's also critical for detecting and preventing potential problems based on each customer's specific usage. This early intelligence can give print providers the lead time they need to fix issues before they disrupt the workflow or cause costly shutdowns and necessitate emergency repairs.

How Canon Helps Power Proactivity

Proactive service and support is a vital component of our ongoing commitment to customer-first innovation.

It includes developing and deploying state-of-the-art tools and remote capabilities to help take equipment performance, engine uptime, and ROI to new levels, like Canon On Remote Service (ORS).

Enabled by the Internet of Things, ORS is a productivity-focused toolset that uses machine learning, advanced analytics, and secure remote access to measure critical functions, provide real-time troubleshooting, and help make both Preventive and Predictive Maintenance truly proactive.

Its Remote Diagnostics, Remote Assistance, and Remote Connect Capabilities can help PSPs achieve:

- Higher uptime
- Smoother operation
- More efficient use of labor
- Improved inventory and supply chain control

A Closer Look at ORS

According to Scott Scheffer, a Canon product service advisor at the Canon America's Customer Innovation Center, ORS allows Canon's service team to "keep their fingers on the pulse of each press."

"Inside the ORS servers, Canon can see what the motors are doing. We can see which pumps are turning. We can see when customers are printing and when they're not, as well as what applications they are printing," Scheffer said. "This knowledge is key to improving supply chain management — making sure the customer has enough ink in inventory, for example, but not too much that's going to expire. It's the same for paper and parts, so PSPs aren't waiting for shipments, which is critical right now."

Even more important, he noted, is the ability to see all the printer analytics. "We can see the different foot counts and when preventive maintenance tasks are recommended. Some, like cleaning filters, can be pushed forward. Other items are more critical. If you don't replace certain parts, they're going to fail, and they could fail in the middle of a run. Knowing which maintenance items are coming due and when big print runs are going to occur makes it possible to strategically shift scheduled outages so production is uninterrupted. That's a huge benefit to customers."

In addition, Scheffer says several predictive triggers connected to various parts of the production process are monitored. "If an issue is detected, an email alert is sent to the appropriate Canon service technician, who can log in to see more details, remotely troubleshoot in real time, and offer a higher level of service and support."

Beyond Maintenance to Operational Behaviors

Based on the analytics, ORS also enables Canon to provide customers with helpful information on how they could be more productive — their operational behaviors.

Remote Connect activities such as meter readings and diagnostic data can be communicated automatically, saving time, reducing administrative efforts, and helping keep production engines running at maximum capacity.

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In addition, Scheffer noted, there are unique training opportunities to help shorten the learning curve for new hires or to share knowledge with current staff. "We have the ability to pull in an expert no matter where they are on the globe. They can be there for a customer in real time, on site virtually, sharing their expertise, without actually having to be on the shop floor in person.

With a clear, secure view of what the operators are seeing on the press, they can take control of the operator panel or service PC, manipulate the mouse, show them what screens they need to be accessing, and demonstrate exactly how to perform the different procedures in the technical service manual — all remotely."

Proactivity as an Industry 4.0 Advantage

"Helping you harness the power of being proactive as a print service provider is one of the many competitive advantages of doing business with Canon Solutions America," Scheffer concluded. "You have this arsenal of people behind you keeping a constant watch on your presses and anticipating what you need. And you have leading-edge tools and technologies — like ORS — that are generating the deep information PSPs required to evolve and innovate."

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