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From descriptive to predictive: evolving your asset maintenance strategy

How prescriptive analytics can help your organization break the cycle



The case to evolve

If you work in asset management, you're likely faced with a common scenario: declining investments and infrastructure. As assets pass the end of their useful life, they continue to get maintained—not replaced.

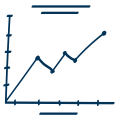
By forgoing purchasing new assets, the capital dollars to replace those assets are reallocated. The responsibility to pay for the maintenance now shifts to operational budgets, which are now stuck in perpetual reactive mode.

It's cyclical and costs organizations a lot more than replacing assets that have survived past their intended lifespan.

The key to unlocking better asset optimization and maintenance is data and how you use it. Today, we're exploring:



The states of maintenance



The types of asset analytics



How organizations can evolve their strategies to break the cycle



Part 1 – The states of maintenance

In asset management, descriptive and prescriptive analytics play vital roles in optimizing operations.

1. Making sense of the past with descriptive analytics

Descriptive analytics: doing what you can with your reactionary asset data

So, what are descriptive analytics?

Descriptive analytics summarize and interpret historical data and trends to gain insights into how assets have performed in the past, usually by using statistical methods and visualization techniques to present the data in a meaningful way.

It's limited, however, in its ability to predict future outcomes.

How asset managers can dig into asset health

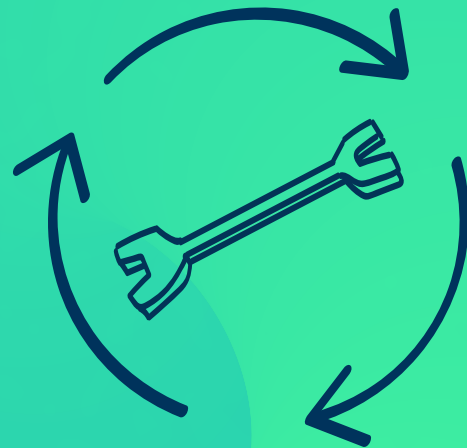
Maintenance teams can better understand their health by using historical data and statistical methods to gain insights into the performance and condition of assets over time. Managers can also identify patterns and trends in asset data and optimize maintenance schedules and resource allocation.

“Tell me what I’m looking at here.”

Two examples of descriptive analytics include tracking maintenance activities and costs over time as well as using statistical methods to identify correlations between maintenance activities and asset performance. Additionally, data visualization tools, such as dashboards for high-level overviews of asset performance and maintenance activities, can simplify insights for more straightforward interpretation.

The power of maintenance plus insights

With descriptive analytics, organizations can gauge asset performance and identify where improvements might be made to reduce costs, optimize performance, and extend the useful life of assets over time.



2. Preventive maintenance

Preventive maintenance: saving your assets from future meltdowns one inspection at a time.

What is preventive maintenance?

Preventive maintenance is a strategy that involves regularly scheduled inspections, servicing, and repairs of assets to prevent breakdowns and extend their useful life.

Routine care keeps the unexpected away

Preventive maintenance aims to identify or address potential issues before they become major problems, thus avoiding unexpected equipment failures, safety hazards, and costly repairs.

The best practices are often already suggested

Manufacturers include recommendations or specs with their products, typically in the form of Original Equipment Manufacturing (OEM) maintenance. Once you purchase or acquire an asset, you follow these suggestions to maximize the useful life of your asset.

For example, when you install a TPO rubber roof on top of a building, a manufacturer will say, “Once every month or once every quarter, you should be walking around and visually inspect that roof for degradation.” The goal here is to prevent or intervene soon enough what becomes a failure of that roof material, which inevitably could cause a leak two floors below it, further degrading any assets in that building pretty quickly.

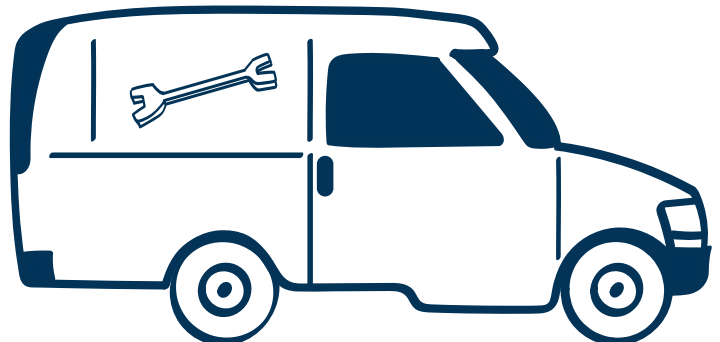
The case for regular maintenance

Organizations can optimize asset performance by implementing a preventive maintenance program to reduce downtime and repair costs. Regular upkeep also helps to increase safety and reliability as well as identify opportunities for efficiency improvements and cost savings. And, ever significantly, preventive maintenance can help ensure your organization complies with regulatory requirements.



Preventive maintenance everyone should do

An everyday example is your car. You buy a car for \$20,000 and spend \$100 a year on oil changes. And likely, you won't have to buy a brand new car for 10 years. If you take that \$100 year-over-year, 10 years becomes \$1000 — much less than a typical shop visit to repair or replace your engine.



3. Predictive maintenance

Predictive maintenance: saving your assets from breakdowns with a touch of clairvoyance.

What is predictive maintenance?

A predictive, also known as a “condition-based” maintenance strategy, uses data and analytics to predict when an asset is likely to fail and proactively schedule maintenance before a failure occurs.

How to take your preventive maintenance one step further

Predictive maintenance aims to optimize maintenance schedules, reduce downtime and improve asset performance — all while minimizing costs. Sensors and other technologies collect real-time data on an asset’s condition. Then, the gathered information is analyzed to identify patterns and trends that can be used to predict when maintenance is required.

Are you listening to what your assets are saying?

Using history and available data points from your assets, you can decide what’s most likely to happen; predictive maintenance is trying to forecast based on mathematics and data sciences. Predictive maintenance can include lubrication, cleaning, calibration, and replacing worn parts.

If you know where and when it makes the most sense to perform these activities, your assets can stay healthy longer while you optimize your available resources.

Prediction: an optimized future

By using predictive maintenance, organizations can optimize maintenance schedules, reduce unplanned downtime, improve asset reliability and safety, and be future-forward to identify opportunities for efficiency improvements and cost savings by providing insights into asset performance and condition.



Part 2 – Let’s get analytical: Descriptive vs. prescriptive analytics

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2. The future of asset management is prescriptive analytics

Prescriptive analytics: acting even smarter with preventive and predictive maintenance.

What are prescriptive analytics?

Prescriptive analytics use data, statistical algorithms, and machine learning techniques to make recommendations about what actions to take to achieve a particular goal or outcome to provide actionable guidance that helps decision-making and the optimization of operations.

Putting prescriptive analytics into practice

Prescriptive analytics are forward-focused; asset managers use them to optimize maintenance schedules, predict failures, and allocate resources more effectively.

Asset managers can also use prescriptive analytics to develop models that predict the likelihood of asset failures and then recommend specific maintenance actions to prevent those failures from occurring.

Asset management, optimized with data

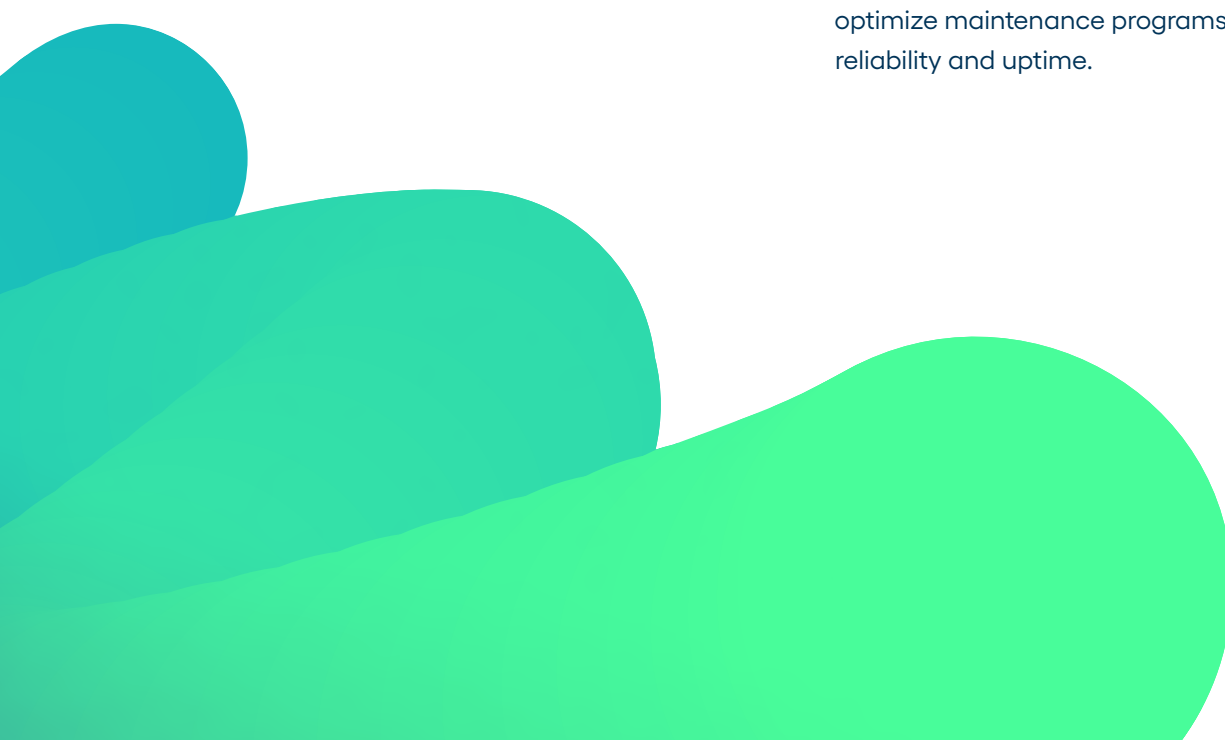
Asset managers can get the most out of their maintenance schedules by analyzing historical data on asset performance and maintenance activities and recommending the optimal frequency or type of maintenance activities needed to keep assets operating at peak performance. For example, you can use prescriptive analytics to predict the likelihood of asset breakdown by analyzing historical data on asset performance and identifying early warning signs of potential failures, then recommend specific actions to prevent the disruption.

Asset managers can also optimize resource allocation by identifying which assets require the most maintenance and which maintenance activities are most effective at preventing failures to help reduce maintenance costs by optimizing staff utilization.

Inventory management is another area that can be improved, er, optimized, by analyzing historical data on parts usage and then predicting which parts are most likely to be needed in the future.

Data and insights for the win

Prescriptive analytics can provide valuable insights into asset performance and maintenance activities to help optimize maintenance programs as well as improve asset reliability and uptime.



Part 3 – How to evolve your strategies to break the cycle

Step away from “Well, we’ve always done it this way.” If your best employee were to win the lotto and quit tomorrow, would your maintenance and operations teams still be able to keep everything running?

An approach you can (and should) start ASAP

Today’s workforce is shifting, and technology can be as easy to learn as using a mobile device — and deliver an impact that can be felt from the shop or factory floor up to the C-suite.

Whether you’re looking to capture institutional knowledge before it walks out the door or attract new talent (that appreciates having the right tools for the job), by embracing data-driven approaches, asset managers can superpower decision-making, streamline operations, and unlock managing and maintaining assets effectively.

Power up any asset maintenance style with data

With asset management, you’ll always have a bit of everything regarding maintenance. But, shifting away from reactive towards preventive and predictive maintenance with prescriptive analytics will enable organizations to optimize assets, thwart asset failure, streamline operations, make more informed decisions, and ultimately, save money.

“

If we look specifically at analytics, reactive takes the lowest level...it’s descriptive: It’s simply rolling up the data into ‘what has happened?’ The next level up is diagnostic or benchmarking; right above that, you get into predictive insights, which is project-forward, and ‘tell me what’s most likely to happen.’ And then prescriptive: based on what we know, when we should do the thing and who is best suited to do it.

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Ryan Sterk

Director of Analytics, Brightly Software



Shine a Brightly light on asset management

Brightly suite of solutions helps organizations leverage the power of preventive and predictive maintenance and prescriptive analytics to bring your data into action with smarter and faster decision-making.

Unlock value in visualization

With powerful Brightly solutions, your team can use your asset data to make more informed decisions for your maintenance and operations. Whether you want to set performance targets through key performance indicators, compare how you stack up against others in your industry or use data to know what tasks make the most sense to do now (and who should be doing them), we're here to help optimize how you take care of your assets.

Want to see how Brightly can help you level up your asset management? [Book a call with an expert today.](#)



About Brightly Software

Brightly, a Siemens company, is the global leader in intelligent asset management solutions, enables organizations to transform the performance of their assets. Brightly's sophisticated cloud-based platform leverages more than 20 years of data to deliver predictive insights that help users through the key phases of the entire asset lifecycle. More than 12,000 clients of every size worldwide depend on Brightly's complete suite of intuitive software – including CMMS, EAM, Strategic Asset Management, IoT Remote Monitoring, Sustainability and Community Engagement. Paired with award-winning training, support and consulting services, Brightly helps light the way to a bright future with smarter assets and sustainable communities. For more information, visit brightlysoftware.com

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