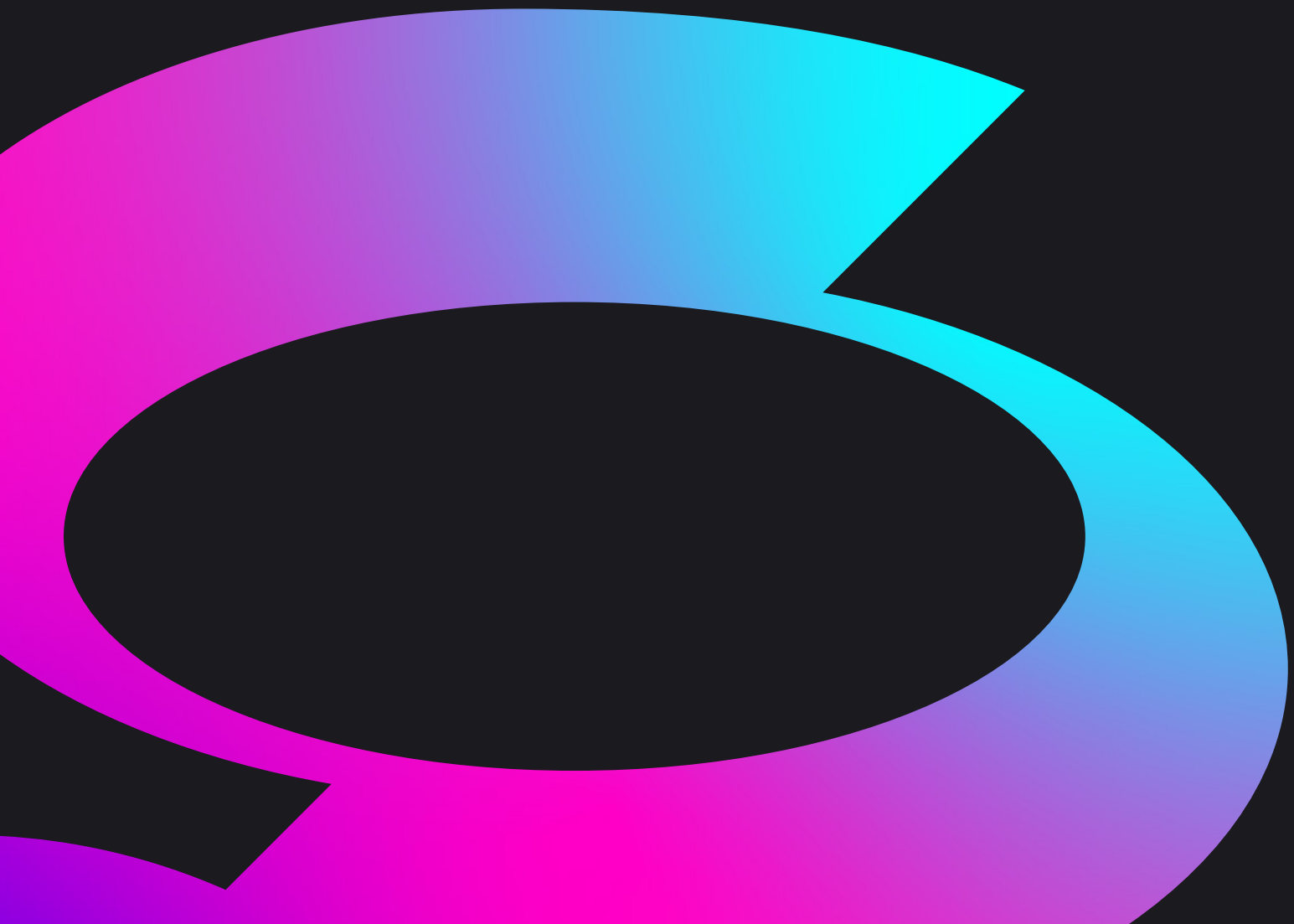
OCTAVE

WHITE PAPER

# Operationalize asset performance management to drive full financial impact



ARC Advisory Group reports that only 18% of assets have an age-related failure pattern. That leaves more than 80% of assets miscast in traditional maintenance programs. It's therefore no wonder the global market for predictive-maintenance technology is expected to reach $47.8 billion by 2029. There is no doubt that asset performance management (APM) has proven to increase uptime and reduce costs for organizations across the globe, and that it is an ever-growing industry.

So why does Deloitte estimate that fewer than 5% of companies have achieved APM programs that drive financial results?

Why aren't more assets taking advantage of this proven technology?

**The answer is painfully simple.**

Transforming an asset strategy into an operational workflow is hard. Even for those who have used APM, it is often too complex to apply across all assets.

In 2019, when we founded Octave Attune APM (formerly HxGN APM), removing complexity became our mission. In this paper, we'll explore where complexity creeps in and show you how Attune APM has architected a system to simplify without sacrificing effectiveness.

# APM as a framework works

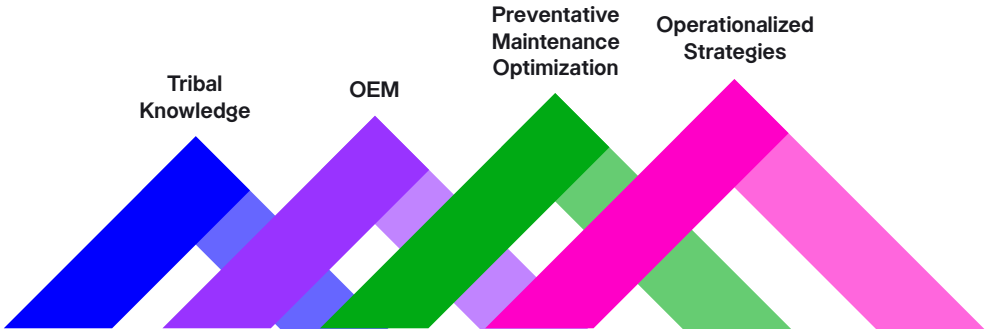
As an industrial leader, you already understand the value of advancing your asset performance management. A study by the Deloitte Analytics Institute showed that, "On average, predictive maintenance increases productivity by 25%, reduces breakdowns by 70% and lowers maintenance costs by 25%.

The foundation of asset performance management are common sense measures, yet powerful:

- If you implement more proactive maintenance methods, you will lower operating costs.
- Risk-based approaches to managing assets prioritize limited people and financial resources to the places they will have the most impact.
- Advanced warnings for possible failures can significantly reduce unplanned downtime and reduce the cost of repair.
- On-going continuous improvement efforts get a massive jolt with the input of new data points and insights APM systems make visible.

It's no wonder that as an industry, we have come a long way from reactive, run-to-failure asset management policies of the past and now opt for more structured methods - to define and execute activities to preserve the life of industrial equipment.

# The evolution of strategies to manage assets




Asset strategies are a plan of action for your industrial equipment. Strategies typically include activities such as preventative maintenance, inspections and planned overhauls. With the adoption of standards such as ISO 55001 and the evolution of enterprise asset management systems, industrial organizations have matured in the management of asset strategies over the last 25 years. The foundations are now in place to fully operationalize asset strategies.

## Tribal knowledge

Any planned activities to maintain assets are based solely on traditional practices that have been built up over time. These are typically based on how things have always been done and are defined by 'reactions' or 'bad experiences' strategies.

## OEM recommendations

Maintenance, inspection and overhaul plans are established by the equipment manufacturer but are parts and services heavy and are not based on operating context.

## Preventative maintenance optimization

Maintenance plans have been evaluated against actual historical repair and failure data. Activity cost and frequency are optimized based on actual operating experience.

## Operationalized strategies

Lifecycle strategies are defined based on the actual failure risk to the business. Optimal maintenance and monitoring activities are implemented and emerging threats are tracked in real-time.

# Where APM hits a wall

The conditions to mature further are deeply embedded in the ways we already work.

Yet, despite its clear value, ARC reports that less than a quarter of respondents indicate that their asset strategy has been implemented.

**We have to ask ourselves, what is slowing down our progress?**

The many challenges that stand in the way of progress are real and can't be ignored. The complexity and costs of implementing APM tend to drive true ROI on highly critical and expensive machinery, but our experience suggests that they represent less than 15% of the total asset base, leaving unrealized value.

Complexity comes in many forms. First, there are too many technical approaches and methods that you could leverage. This creates confusion and solution silos. Your team has a vision, but they get distracted by bold claims and narrow their focus to addressing the most urgent pain point, not the entire system.

Should I just focus on a specific predictive maintenance (PdM) technique?

Will one of these 'easy button' machine learning models for anomaly detection methods solve all my reliability problems?

What if I just focus on root cause analysis and learn from my mistakes?

We understand the temptation. Big bang, top-down, enterprise transformation models create long payback cycles, change management challenges and typically do not address the true needs of the reliability engineer working improvements across a bad actor list.

Reading this you might be discouraged, but there is hope. A more modern approach to operationalizing APM is ready to take your asset strategies to the next level.

# Traditional challenges with asset strategies

Industrial organizations typically have some form of an asset strategy in place, but they are generally limited to simple preventative maintenance, inspection activities and execution intervals. While these plans are a great starting point, they are rarely designed from a failure risk basis and, therefore, are not optimized to ensure assets fully meet business objectives.

A more effective approach is to define asset strategies which document how an asset can potentially fail, the risk an asset presents to the business and an economically justified plan to mitigate that risk.

**So, what makes the development of effective asset strategies so difficult?**

- **Many development approaches**, such as RCM, FMEA and planned maintenance optimization, are resource-intensive and require specific expertise, which limits an organization's ability to scale efforts.
- **Functional silos** across maintenance, operations and engineering teams stifle collaboration and the creation of strategies that meet all stakeholder needs.
- **Strategy development programs** are executed as projects instead of an enhanced business process to drive continuous improvement and optimization.
- **Limited technical integration models** between enterprise asset management (EAM), asset performance management and data historians limit the ability to govern implementation.

# Operationalize asset strategies to drive new efficiencies

A successful asset strategy must ensure that you stay in front of unplanned failures and maintenance costs. To that end, an operationalized asset strategy provides active management and governance of failure risks by:

- **Ensuring full visibility** of strategies to ensure all resources managing assets are completely aligned with the plan, business rationale and failure risk mitigation plan.
- **Enabling real-time assessment** of the implemented strategy by tracking the status of preventative maintenance plans, monitoring operating conditions and equipment health.
- **Driving automatic notification and prescriptive actions** when emerging failure risks in the asset strategy are detected and identified.
- **Ensuring collaboration and analysis of lessons learned** when an emerging failure threat is identified and managed to an optimal resolution.

# Modern digital solutions enable effectiveness

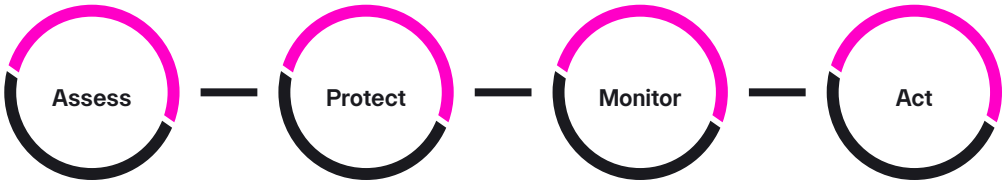
Historically, asset strategies have been developed in simple solutions such as spreadsheets, individual databases or documents. While this provides a simple approach to develop strategies, there is limited ability to standardize, scale, integrate and govern strategies and fully capture potential value.

Modern APM solutions offer capabilities to drive the value from asset strategies in ways the first generation of APM offerings don't offer.

- **Easy to use.** Designed to remove complexity, intuitive workflows engage equipment experts to govern strategies and drive continuous improvement.
- **Embedded libraries and library management models** foster reuse and the rapid scaling of strategies across operations so you can get started immediately.
- **Integration models** leverage existing business systems and data sources (EAM, inspection systems, sensors, historians, data lakes, etc.) to deliver automated workflows.
- **Collaboration tools** provide the ability to tap into people talent, engage equipment experts and capture knowledge from ideal failure risk remediation and lessons learned.

# Establish a standard work process

The key to enabling optimal asset strategies within an organization is to provide reliability, maintenance and engineering teams with a holistic work process. The process should guide and measure the execution of each step from initial development to continuous improvement.




1. Start by **assessing the risk** of credible failure modes on assets that impact business objectives.
2. Develop a strategy to **protect assets** from potential failure risks through mitigation activities.
3. Leverage existing data to **monitor asset and operational conditions** and automatically prescribe mitigations when threats emerge.
4. Ensure appropriate **corrective action** is taken to minimize risk and ensure learning is used to optimize strategy.

# Attune APM can help

Founded in 2019, the team at Octave saw an opportunity to make asset performance management solutions less complex and economically justifiable for all assets that do not fit a run-to-failure strategy.

Our solutions translate your asset strategy from a written plan into a dynamic digital reality and offer a seamless process to define, implement, monitor and operationalize asset strategies.

### Rapid failure protection

Rapid deployment models and embedded asset twin library enable failure risk coverage in minutes.

### Purpose-built

A streamlined platform built by APM experts targets asset strategy, health and risk management.

### APM for everyone

The easy-to-use and subscription model enables companies of any industry and size.

## About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property, and assets– for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.