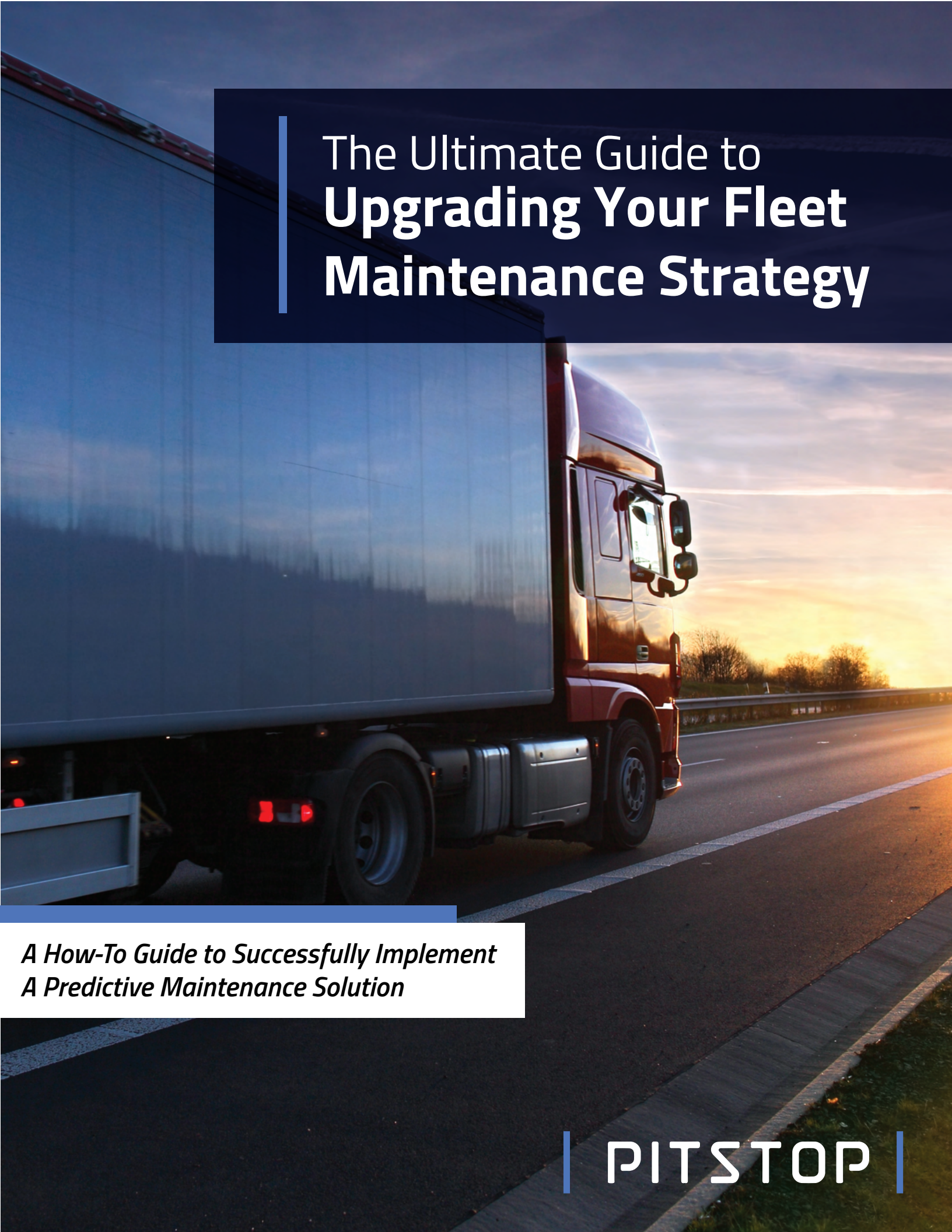

The Ultimate Guide to **Upgrading Your Fleet Maintenance Strategy**

A How-To Guide to Successfully Implement A Predictive Maintenance Solution

PITSTOP

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Introduction

The last decade has been full of innovation, challenges, and great advances for maintenance and fleet professionals across industries.

Businesses have invested heavily in digital transformation, regardless of size and scale, to address operational challenges, save money, and deliver an improved customer experience.

> Some of the technologies that have paved the way to get the industry to this point are telematics/ELD, maintenance management systems, workflow automation, communication, collaboration tools, and many others.

> Predictive maintenance technologies, such as Pitstop, leverages the underlying set of data, infrastructure, and operational practices to help operations staff have an oversight that they have not had before.

In this whitepaper, we discuss the best strategies so businesses will be ready to address the top challenges in fleet maintenance; all while improving their return on investments and workflow.

You'll learn the key areas fleet and maintenance professionals must examine to successfully implement predictive maintenance into their operations.

The Challenges in Fleet Maintenance Today

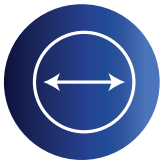
Fleet Managers Need the Right Data

Today, fleet managers use a long stack of technologies to manage their business. Data from telematics/ELD devices, OEM proprietary tools, maintenance applications, ERP applications, and others. Fleet managers are going into multiple disparate systems, with different data sources and are collating this information to drive action within their business. On the opposite end, many maintenance professionals still track this in mundane and manual processes like Excel spreadsheets or a pen and paper.

This is overwhelming, ineffective, and often these systems are not utilized to their fullest.

> *Fleet managers need access to the right data, not all the data.*

Predictive technologies leverage the underlying set of applications, providing accurate information to fleet managers for each asset.



Lack of Precision

Traditionally, fleet management and maintenance professionals have used industrial engineering practices to implement scheduled preventative maintenance of assets based on usage, wear, and specialization of the equipment. For fleets, it has always been odometer reading, engine hours, cost of assets relative to cohort, and other financial motivations.

All of these practices are best guesses, OEM recommended, and lack precision. These practices often are costly and assets are either over or underserved.

Unscheduled Maintenance

Unscheduled maintenance is another line item in the finances of fleet operations. Unscheduled maintenance happens for a multitude of factors such as driver behaviour, OEM recalls, in-field failures, and others.

By its nature, it's unpredictable, unforeseen, and often costs more than the standard and preventative maintenance. Beyond parts and labour, there are additional costs that come from missed customer commitments, administering the failure, and vehicle downtime.

Addressing Fleet Maintenance Challenges with Predictive Maintenance

With ongoing innovations in the fleet industry, companies can now leverage a predictive maintenance strategy to improve their overall operational performances.

But first, what is Predictive Maintenance?

Predictive maintenance is the most advanced and beneficial fleet maintenance strategy amongst the most popular in the industry. Unlike other strategies, predictive maintenance helps you plan downtime, saving you repair costs and increasing uptime through grouping services and seeing failures weeks in advance, also leading to increased driver retention.

A PdM software collects real-time asset operational data through telematics/ELD and compares it with current and historical vehicle operating patterns to gain insights.

The system is then able to alert a manager of a real-world failure ahead of time, allowing the fleet to properly optimize and plan their repair schedule through streamlining DTC alerts, instant communication with the drivers, sending reports directly to the repair shop, and more.

Better yet, unlike some fleet software solutions, the right predictive maintenance platform, like Pitstop, is much more cost effective and affordable.

So how do you get started?

Setting up a new fleet maintenance strategy can seem daunting. But with the help of this guide, you'll be able to properly plan, implement and execute a new predictive maintenance solution that is helpful to the entire business, cross-functionally.

There are three areas to successfully implement a PdM platform and will be discussed in-depth below. Those three areas are:

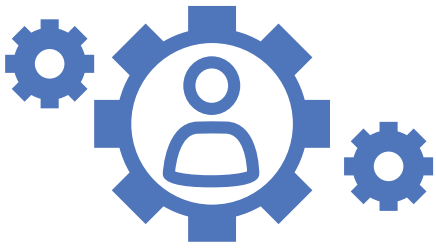
- ***People***
- ***Process***
- ***Technology***

Communication is critical for the success and adoption of any new technology or project for a business. For larger organizations, introduce and embed the project within the existing program management and project delivery framework to engage and involve stakeholders across the organization. For smaller organizations, a combination of scrum-like regimented communication channels can serve as the project management platform for all.

Part 1: People

Maintenance teams provide support for a greater organization of drivers and fleet or field managers. Their primary objective is to provide maintenance service timely and effectively to their own organizations.

The maintenance operations leaders and employees have to be the key drivers, champions, and enablers of predictive maintenance.



All maintenance operations are mission-critical operations and should be treated as such.

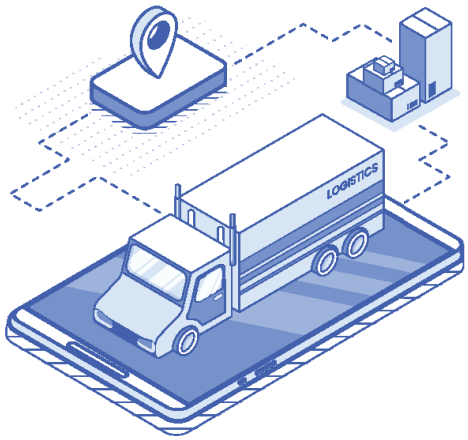
This philosophy has to be championed within the fleet and maintenance operations.

Maintenance teams provide support for a greater organization of drivers and fleet or field managers. Their primary objective is to provide maintenance service timely and effectively to their own organizations.

Determining Operational Objectives

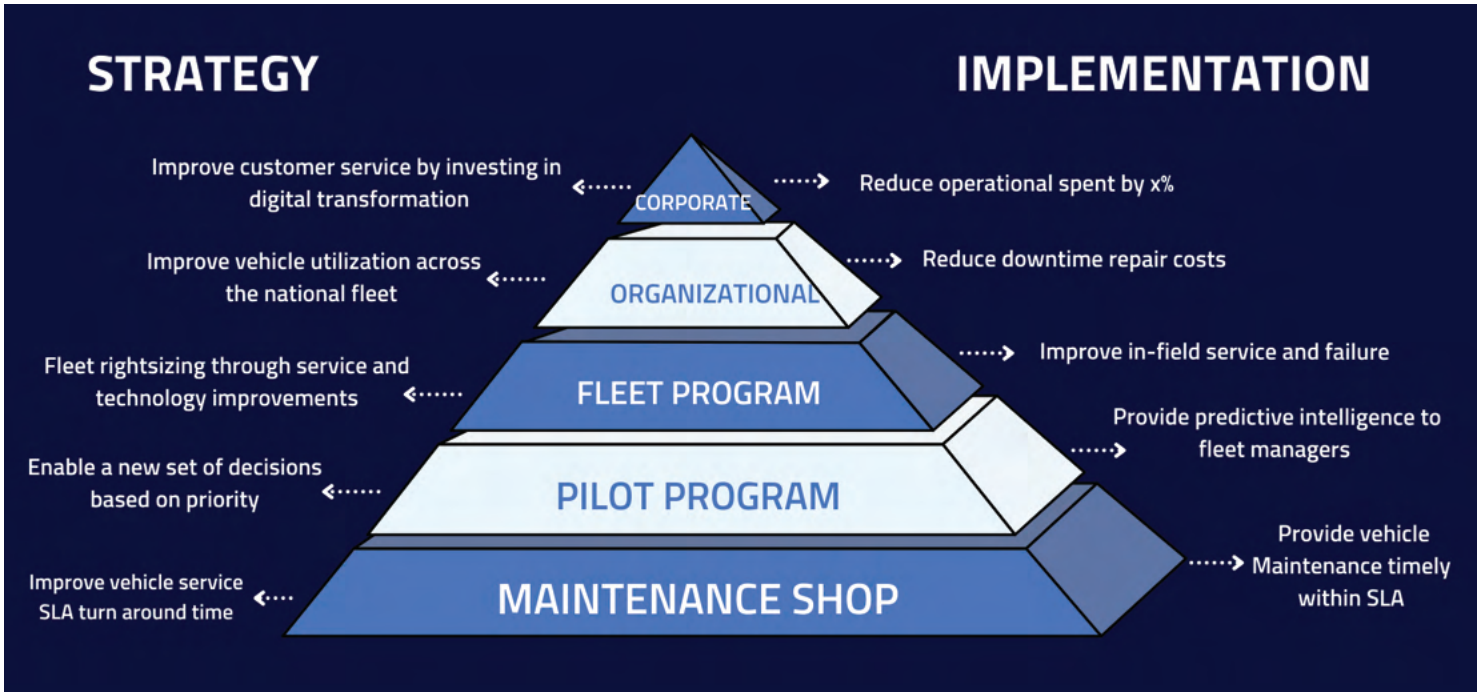
It is recommended that fleet operations focus and target areas of improvement starting from simple things like effectively coordinating issues to improve SLAs to driving overall ROI. The goals need to align with the overall enterprise strategy.

For example, if a fleet is using advanced alerting to drive uptime, they are also improving customer experience for their customers, ensuring timely deliveries, and minimizing missed commitments. Both are key metrics in field services, logistics, and other industries which are often also corporate goals.



Predictive analytics comes with a pre-canned set of data and tools that can be leveraged to address multiple organizational and corporate goals. This is critical to align stakeholders internally and address objectives and motivations in multiple business units.

End goals across divisions could look something like:



Operationalization - The Typical Teams Impacted

The champion team:
Maintenance

The implementation team:
Project Management

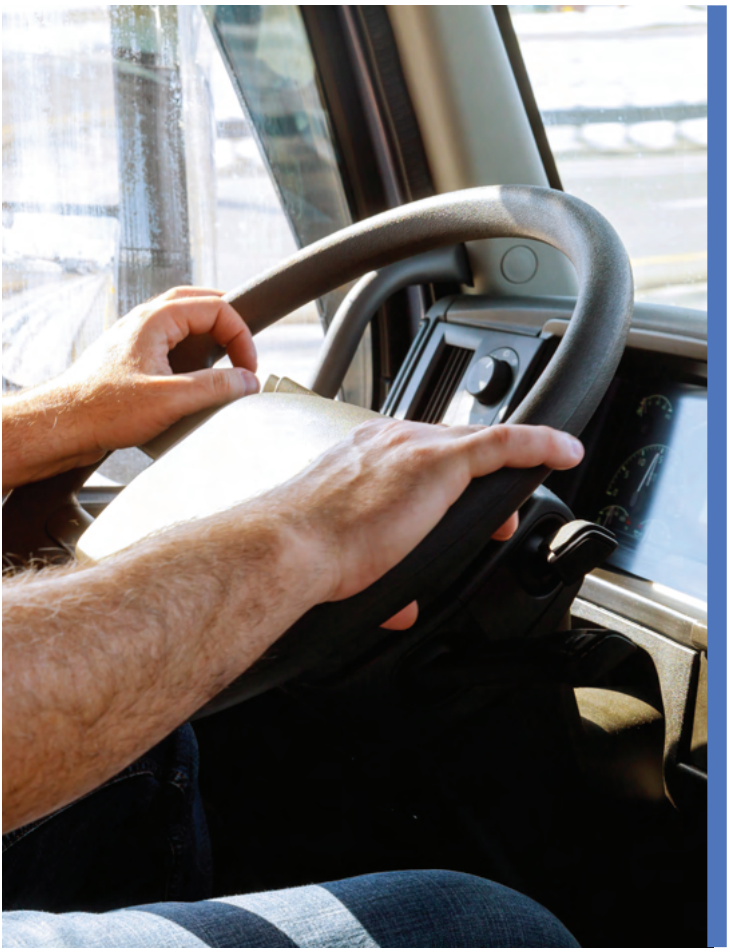
The support team:
Operations leaders and Finance & Procurement

The enabling team:
Compliance, Fleet Management

Compliance

Organizations and leaders need to improve and add predictive maintenance workflow in their compliance checks and audits. Compliance managers should also have access to predictive alerts created and implemented by the fleet to showcase to insurance, regulators and others.

For example, in Ontario, Canada, brakes are required to be certified annually during an inspection. However, the wear of a vehicle's brakes depends on driver behaviour as well as the usage and purpose of the vehicle which can change during a year, potentially increasing insurance for the asset. Proactive technologies can assist compliance managers to build strong business cases to show how they are addressing the problem ahead of time.



Drivers

Drivers are the most critical piece of this predictive maintenance implementation puzzle. A handful of drivers should be selected. Drivers should know what actions to take, how to communicate, and their role in the pilot program and its greater rollout.

There is a direct correlation between well-maintained fleets and driver retention as a well-run maintenance shop delivers an improved driver experience.

As we are shifting more from FTEs to Owner Operators, it will be important to start with an internal resource but also consider how to include Owner Operators, contracted fleets or even subsidiaries. Driver buy-in is critical and the accuracy of the prediction to the driver will drive confidence and engagement of the solution.

Part 2: Process

The management team should focus on applying the new technology on top of existing processes and programs that are already operationalized. This facilitates change management across the organization and allows quick and effective buy-ins.

The proof of concept should be a minimal change in the overall process in order to not overwhelm the operations teams, which can impede the success of the program. It's important to assign project and program managers to lead the cross-functional effort across the organization.

It is important to find a predictive maintenance solution, like Pitstop, that integrates fluidly with your current workflow.

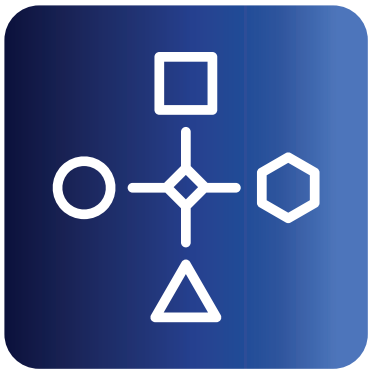
What are the maintenance resources involved?

Maintenance Manager – Primary champion

Need to engage resources and outline their involvement in the pilot program and prepare for greater rollout. Managers need to fully understand how the day-to-day will change in the future, leverage the right resources within their organization and ensure communication and feedback protocols are in place to support their own staff.

Maintenance Tech(s) – Secondary champion

Select a resource or a group of resources to act on the predictive insights and provide feedback through the communication channels implemented by the maintenance manager. Technicians/Mechanics will have access to a new set of information about the vehicles they manage, the work orders they work on and customers they work with. It's critical that they understand and provide feedback often to the program team to ensure the right benefit is delivered in the front line.



External Shop(s) – Tertiary champion

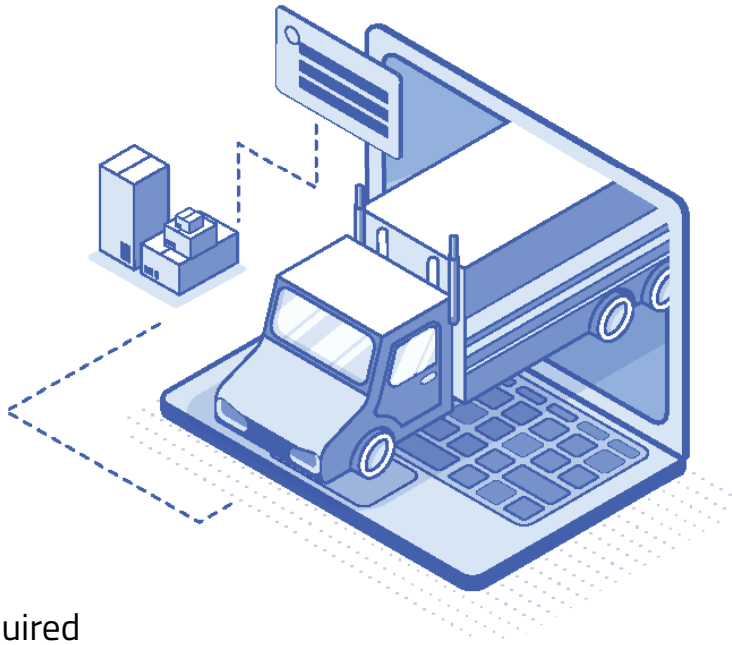
Need to be involved depending on the fleet's maintenance structure and program. Select one or two regional shops for the pilot program and use learnings to eventually roll out to a larger network of contract shops, if required.

Working closely with front-line management, mechanics, administrators, and contracted vendors is critical to the success of such a program. Engaging these stakeholders early in the process, involving them in the pilot and study to ensure ease and benefit to their groups will facilitate transition into a full-scale program rollout. Effective communication is key to managing changes within business.

Part 3: Technology

If the company is too small to have a dedicated IT group, there needs to be a champion who understands the current fleet technology intimately and should be addressing any policy, security, training, and assess any additional impacts a new technology, such as predictive maintenance, would have in their environment. This person should also interface with the Predictive Maintenance vendor to onboard the solution into their internal environment based on their own policies and governance.

There are three areas to successfully implement a PdM platform and will be discussed in-depth below. Those three areas are:



Telematics/ELD

Does my current telematics/ELD integrate with a maintenance technology partner?

Maintenance

Cadence of how data will be transferred from maintenance to predictive application.

Any other integrations

- Map out integrations that are required
- Prioritize based on integration need and use case

Reporting

- In-app reporting
- Exporting data and building custom reports
  - Executive, management, and front line reports
- Algorithm and training
  - Understanding how algorithms work
  - Understanding how to use and leverage algorithm insights

Introducing Pilot Programs

For smaller organizations, a Pilot Program should not be required and predictive maintenance can be operationalized with small and effective iterations. More often than not, for fleets that are smaller than 50 vehicles, all stakeholders above are just a handful of key administrative employees. For larger organizations (1000+ vehicles), a disciplined and organized Pilot Program is recommended.

Some of the key responsibilities from team members during include:

ROLES AND RESPONSIBILITIES	CHAMPION TEAM FLEET AND MAINTENANCE	ENABLING TEAM COMPLIANCE, FLEET MANAGEMENT, AND TRAINING	SUPPORT TEAM EXECUTIVES AND FINANCE/PROCUREMENT
	Learn, lead, and map out the workflow that will be improved with Predictive Maintenance and set clear expectations internally with other stakeholders	Work closely with the Champion team to understand their role, integrate the pilot activity into their workflow and measure improvements during the pilot period	Understand the infield use case, plan for eventual organizational rollout by planning to allocate funds, resources and priority
	Allocate management resources, front line resources and infield/driver resources	Track metrics, understand gaps and fill them during the pilot process	Work with IT/BI to plan for integration into overall existing operational metrics
	Communicate results to each stakeholder via meetings, reporting and other communication methods already established within the business	Add and improve existing communication but include predictive insights in existing meetings, reporting and others	Understand feedback from maintenance and other stakeholders to provide financial and operational oversight from a corporate perspective

Pilot programs are also key to understanding how the technology performs within a business under a defined scope. The objective should be to understand how the data points are generated and how they can be included in the decision-making process and the workflow of the operations team.

There can be resistance from internal staff and more often than not, you will run into issues. However, these are scenarios that help you understand what to address when the technology will be fully deployed to the entire fleet. Successful decisions that were made based on predictions that benefited the organization have to be championed during the pilot and beyond.

For a larger, enterprise fleet, it's highly recommended that these results be tracked during the pilot program; their matriculation, automation, and use have to be mapped out to support the full rollout.

Conclusion

The world of commercial fleets is vast. They often operate in hyper-competitive service industries where cost differentiation and operational improvements are key to improving their bottom line. Though there is a great standardization in operating methods, there is a lack of standardization in the usage of technology.

The typical North American commercial fleet of 20 vehicles are new to using data to improve their processes and technologies. The enterprise fleets (1000+ vehicles) have an innate ability to leverage data to drive decision-making. However, both sets of organizations lack the data science technology to build new AI solutions that can improve their business. Predictive intelligence allows a new set of data points and different decisions that the business can make to drive operational innovation.

Pitstop's predictive maintenance platform can help you along the way. Our affordable platform provides advanced actionable insights for effective decision-making; relieving some of the toughest challenges in fleet maintenance today.

» To learn more visit: pitstopconnect.com/book-a-demo/