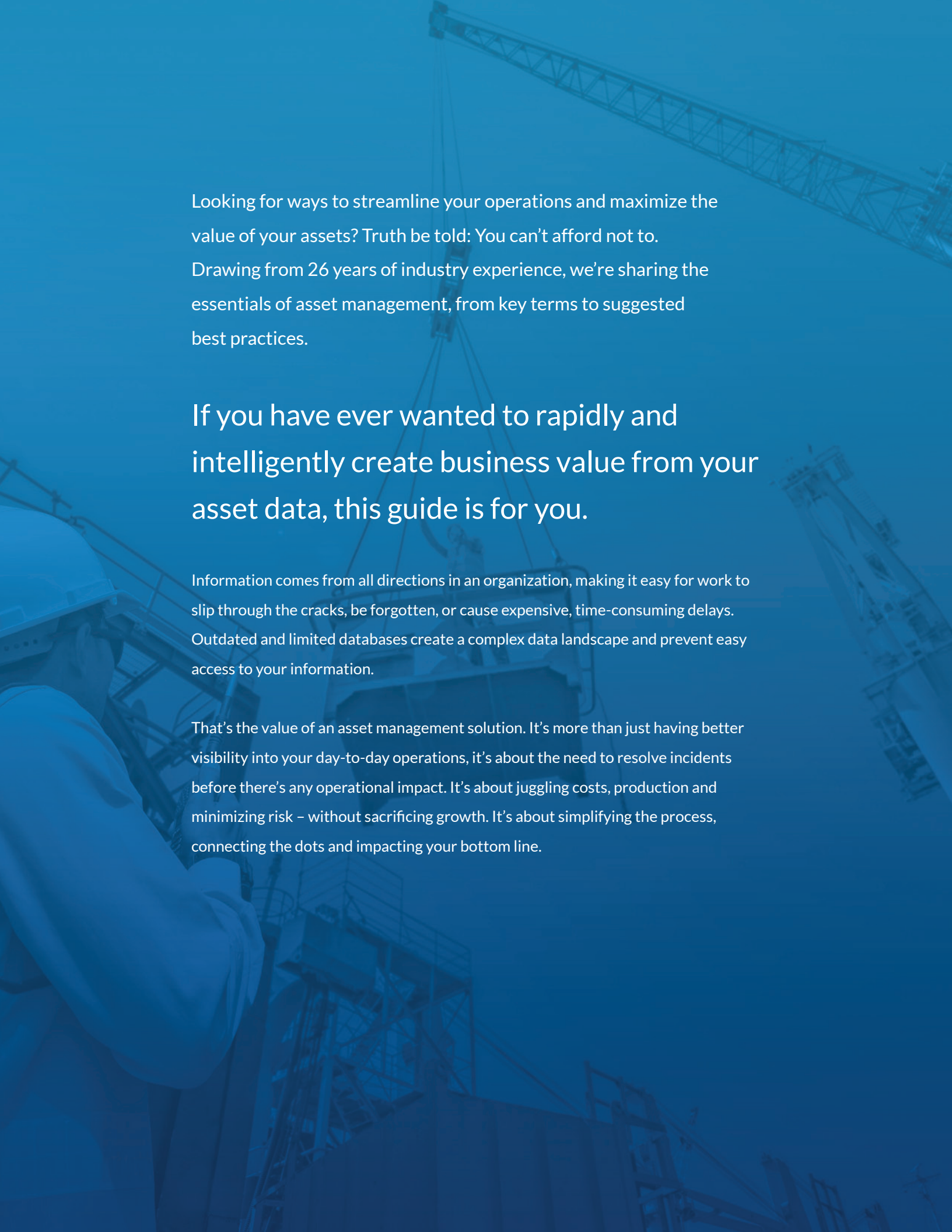
Asset Management Toolkit

ManagerPlus®



Looking for ways to streamline your operations and maximize the value of your assets? Truth be told: You can't afford not to. Drawing from 26 years of industry experience, we're sharing the essentials of asset management, from key terms to suggested best practices.

If you have ever wanted to rapidly and intelligently create business value from your asset data, this guide is for you.

Information comes from all directions in an organization, making it easy for work to slip through the cracks, be forgotten, or cause expensive, time-consuming delays. Outdated and limited databases create a complex data landscape and prevent easy access to your information.

That's the value of an asset management solution. It's more than just having better visibility into your day-to-day operations, it's about the need to resolve incidents before there's any operational impact. It's about juggling costs, production and minimizing risk – without sacrificing growth. It's about simplifying the process, connecting the dots and impacting your bottom line.

Section 1:

Asset Management Overview

Choosing an asset management solution that is right for you can feel like a daunting task. We hope that this guide will ease that difficulty by providing information that can be referenced when choosing a solution that meets your business needs and priorities. More on that later. Let's start by defining a few key terms.

WHAT IS AN ASSET?

In this context, ManagerPlus defines an asset as any piece of equipment controlled by your company that provides some benefit. Within the realm of maintenance management, these are non-human fixed assets. Whether it's a freight truck, your commercial properties, or even a specific piece of equipment used in your production line, if it provides a clear value, it's an asset.

Common Business Assets

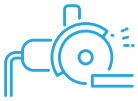
Within different industries, there are specific types of assets that are commonly invested in and maintained. Some examples include:

FLEET ASSETS

These are defined by their ability to move things from one place to another. They include vehicles and their associated trailers and accessories. Trucking and transportation companies track their tractors and trailers. Governments track their police cruisers and firetrucks. Other companies track their vehicles, even if those vehicles aren't the only type of asset they maintain; these could include golf carts, company vehicles, ambulances, and even planes or ships.

CONSTRUCTION ASSETS

These are similar to fleet assets, but are typically categorized as heavy equipment designed with a specific construction-related purpose in mind. They include dump trucks, backhoes, earth scrapers and cement trucks. While most construction assets have wheels, the term also includes cranes, mining equipment and other large assets.



MANUFACTURING ASSETS

These are typically large fixed assets that are a part of a production line. They include compressors, welders, shaping machines, packaging machines and similar assets. Assets in this category tend to be fixed in place within a facility or factory.

FACILITIES ASSETS

These consist of the infrastructure necessary to keep organizations and businesses running. They encompass both the physical buildings as well as the different pieces of those buildings that need to be maintained. There are simple facilities assets, such as light fixtures and stairwells, and complex facilities assets, such as portions of HVAC systems. Facilities assets can also include the maintenance of properties in real estate management.

Consider your organization's assets

When it comes to what your business considers its assets, almost anything could qualify. For the purposes of this Asset Management guide, we are narrowing the scope to refer specifically to those assets that need to be maintained and managed. Without sacrificing much time and energy, would you be able to accomplish the following tasks?

- Quickly locate past maintenance and inspection records for each of your assets
- Automatically generate & distribute work orders when maintenance is due
- Analyze the data from your assets quickly to gain valuable insights into your business
- Know what assets need to be inspected, by whom, and when
- Track inventory and forecast how much to order and when to order
- Effortlessly access the information from your phone, tablet, or computer
- Use a cell phone to perform inspections, manage and submit work orders, scan barcodes, and view a quick summary of all the information

If you are using Lightning by ManagerPlus, or another modern Asset Management Platform, you were able to confidently answer "yes" to all of the above questions. Without an advanced asset management solution, there's not a clear path to the data you need to make smart decisions, leaving your strategy prone to error and reliant on guesswork.

What is asset management?

Simply put, it is an organization's coordinated effort to maximize value from its assets. Effective management increases the useful life of assets, controls costs and improves the bottom line.

Asset Management is the process whereby an organization monitors the condition and health of their assets and systematically plans maintenance and usage to maximize production and reduce operational costs, while extending asset lifecycles.

What Does Asset Management Entail for Your Organization?

The first component of Asset Management is monitoring assets for health and conditions.

This is usually accomplished through log and meter records. They can range from the more obvious to the more complex, for example, using your company vehicle's odometer to record how many miles it has traveled over its lifecycle, or using vibration testing levels to assess the condition of your machines and equipment.

Asset Management involves systematic planning.

A regular plan should be implemented to ensure that the effort put into your assets is an iterative process, rather than a single activity.

Asset Management is concerned with the maintenance and usage of assets.

This includes tracking work orders, inspections and their associated costs. It also takes other relevant information, such as inventory used to maintain assets, associated labor costs, budgets, etc, into consideration.

Asset Management is all about improving your operational productivity.

The end goal of an Asset Management solution is to get the most out of your assets and ultimately, improve your bottom line. Keeping your records, work requests, scheduled maintenance, and parts inventory organized will enable you to reduce asset downtime and frequency of replacements, while increasing asset efficiency and lifecycle.

How Can an Asset Management Platform Transform Your Business?

The benefits of an Asset Management program are clear, but achieving them is often challenging. This is why using an Asset Management Platform is essential.

An Asset Management Platform refers to the technology solution used to optimize operational productivity and get the most value from your assets.

This typically includes some combination of the following functions:

- A customizable, centralized database used to track important asset data
- A scheduling tool for tracking, predicting and optimizing internal processes
- Analysis and reporting functions that allow businesses to gain valuable insight and implement successful management strategies.

The current market is highly competitive, putting a lot of pressure on businesses to gain a competitive advantage. Rising production rates require more assets, so managing them efficiently is critical to reaching operational goals.

The Evolution of Asset Management
(It's the end of CMMS as we know it)

As far back as 50 years ago, computer-based asset management solutions were introduced to the market. Originally, these math-based punch card systems were available only to larger asset-heavy businesses, and abilities were limited to submitting and recording work orders. Other early solutions, including manual entry on paper forms and using simple spreadsheets, had similar limitations. Computerized Maintenance Management Systems (CMMS) came onto the scene in the 1980s.

The process was time-consuming due to their inability to integrate with other business tools. Data silos stood in the way of any meaningful business insights, limiting the visibility that was needed for critical business decisions.

Though the acronym is still around, the legacy CMMS software that ran on green-screen terminals has since evolved. However, even the more recent on-premise CMMS applications have proven insufficient for managing the complex needs of modern businesses. Due to their high expense to operate and even higher cost to upgrade, they are now generally seen as outdated, ineffective and limited. With the high stakes involved in managing your assets, it's clear that manual and legacy software solutions no longer cut it.

New technologies present new opportunities.

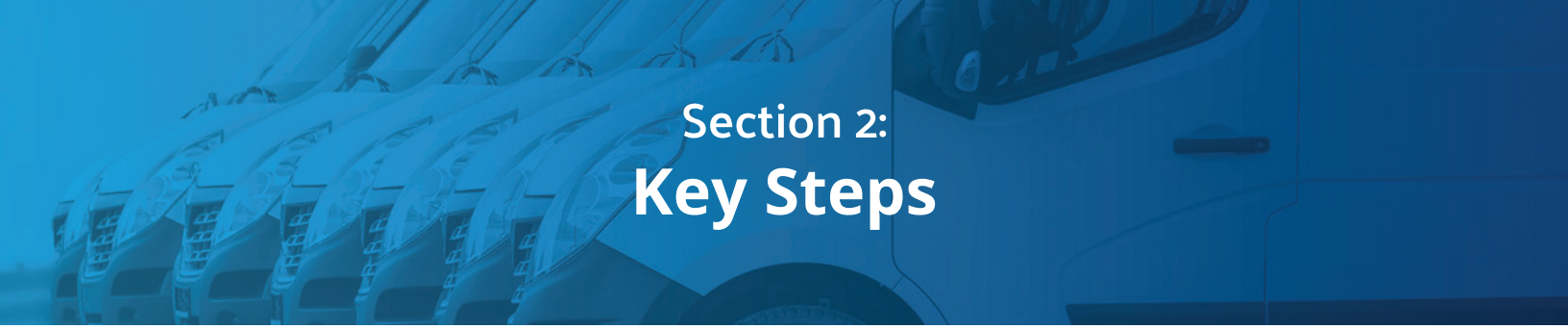
As technological capabilities continue evolving, businesses have an incredible opportunity to modernize the way they operate. An integration of the physical and virtual elements of the workplace provides more efficient ways to collect, store and gain insights from data.

It's critical to have an Asset Management Platform that leverages your data effectively, fusing modern features and powerful capabilities with the integration of each aspect into a single place.

These modern Asset Management Platforms are accessible from anywhere, even on your mobile devices, and give you the ability to integrate with other business applications.

Cloud-based platforms offer greater scalability and ease-of-use. They solve problems that traditional CMMS and legacy asset management methods can't, for instance:

- Offering customizable fields that address the complexity of each business
- Providing easier and faster access to information at the click of a button
- Giving unparalleled visibility and deep insight into internal operations
- Centralizing data for easy access to, and a comprehensive view of, asset records
- Streamlining the process and preventing costly fees with automated maintenance, compliance, inspections and other service scheduling
- Better inventory management and forecasting orders for smarter purchasing decisions



Section 2:

Key Steps

Using the DMAIC Methodology

In this guide, we follow the Define, Measure, Analyze, Improve, Control (DMAIC) methodology commonly used by industry experts in the area of Quality Control. By adapting this methodology to Asset Management, we hope to reinforce the idea that your Asset Management isn't a single process that should be tackled all at once. Rather, we advise rolling out as steps, optimizing each as you go.

1

Define

The first step in Asset Management is to define. It's imperative that you precisely describe your scope, or what your Asset Management will include, and clarify your goals, or what you hope to accomplish. Scope defines both what you are and aren't responsible for.

Start by making a list of all assets within your organization. It is important to dedicate the necessary time to create a thorough, accurate list.

Each asset needs to be entered and organized into your Asset Management Platform. Clearly defining your assets provides the foundation upon which the rest of your Asset Management will be built. The fields establish the data gathering properties and help your platform know how to sort your assets so that your analytics work correctly.

Defining an asset should include the following:

- **ASSET ID:** This is a unique string of numbers that is used to identify the asset from all others
- **DESCRIPTION:** This is a basic explanation of what the asset is
- **GROUP:** This is usually the location within your organization where the asset resides
- **ASSET GROUPS** act like folders on a computer and will help you organize your assets
- **CATEGORY:** Categories are high-level separations between assets and could include distinctions like Aircraft, CDL Trucks, Plumbing, Press, Tractors, Watercraft or Vehicles

- **TYPE:** A lower level distinction between assets. Types help create further distinctions within a category.
  For example, within the Vehicle category, you could include distinctions like Bus, Car, Firetruck, PickUp, Semi, or Van
- **BUDGET:** Where will the money to maintain the asset come from? Budgets will help you divide up fiscal responsibility for your assets.
- **MANUFACTURER:** Who originally manufactured the asset?
- **MODEL:** What is the specific model?
- **SERIAL #:** What is the manufacturer's identifiable number on the asset?

HELPFUL HINT

A brief note about inter-departmental Asset Management:

We strongly recommend drawing lines between what you are and aren't responsible for when it comes to your asset management. That's not to say that you shouldn't have all your assets inside your platform; the process should be used to create distinctions between those departments. If the maintenance department isn't responsible for your IT, that doesn't mean your computers shouldn't be included. Each department should have a corresponding group within the platform to manage the assets for which they are responsible.

GOALS need to consider your desired outcome(s) – you'll need to determine where your main priorities lie so that you can create measurable goals and know how to define your success.

Are you looking to lower the costs of maintenance? Lower downtime and increase uptime? Increase asset reliability? Improve asset productivity? Shift to a preventive or predictive maintenance model?

Your goals are likely interrelated. Good Asset Management practices will likely help you lower maintenance costs and lower downtime.

It is equally important to clearly define what it means to succeed at those goals. There are two pieces to this puzzle. First, set Specific, Measurable, Achievable, Realistic, Timely (SMART) goals for your organization.

SMART GOALS meet the following criteria:

- **SPECIFIC:** Your goal should not be vague. Rather than saying you want to be better at maintaining your assets, specify that you would like to improve on the way you maintain your HVAC system.
- **MEASURABLE:** Your goal needs to have numbers assigned to it. Rather than saying you want to decrease compressor downtime, shoot for a goal of dropping the average compressor downtime to below 5 hours per month.
- **ACHIEVABLE:** Your goals need to be achievable by you and your team. Rather than setting a goal to get the board to allocate you a bigger budget, set a goal to provide evidence that a bigger budget is needed.
- **REALISTIC:** Your goals need to be within your capabilities. Rather than setting a goal that would require your team to be 100% efficient and never miss a day, set goals that allow you to improve, but don't set you up to fail.
- **TIMELY:** Goals need to have a deadline. Rather than just setting a goal to hit 1,000 units produced, set a date by which you want to have produced those units.

Second, set yourself up for success by defining your Key Performance Indicators (KPIs). Where goals can be thought of as long-term achievements, KPIs are the benchmarks along the way that allow you to gauge your progress toward your goal. The KPIs will be an important component of the following step.

2 Measure

The next step is recording the measurements from your assets so you know where you stand.

Measurement is all about right now. While you can attempt to remember measurements from the past, the most accurate measurements will come from your assets as they exist right now. The accuracy of your future records will come from the time you take to carefully measure today.

Measurements are also what will make up your KPIs, which are ultimately just a measurement of specific aspects of your goals.

So, what do you need to measure your KPIs?

Let's look at three different types of measurements that you will likely track for each of your assets: Inputs, Outputs and Conditions. It is important to note that each asset you have will not have every single type of measurement. You will determine the useful measurements for your organization, in accordance with what will help you measure the KPIs for your goals.

Inputs

Inputs are the measurable resources that you put into your assets. Think of inputs as resources you must have before you do maintenance on the asset or before it can produce any value.

Common examples of inputs include:

- **MONEY:** The most obvious input to an asset is money. You must buy an asset (or at least pay to rent it) before you can use it to gain production value from it. You will also end up paying money to employees working on it, and to the employees who maintain it. Nearly every input can eventually be summarized in the monetary term "Cost of Operation." This is usually displayed as a daily average or total over a specific time period.
- **HOURS:** Your maintenance will cost you hours that the asset will not be accessible for production. This is measured as "Downtime." Your technicians will also need to be allocated time to perform the required maintenance on the assets. This is usually measured as Labor Hours.
- **INVENTORY:** In terms of input, your inventory comes in two flavors: Materials and Parts. Materials inventory are the raw materials that your assets use to produce products or value. They are most often found in organizations with manufacturing assets.
- **WORK ORDERS:** Assigned Tasks are the basis of all work. Ideally, your work orders should be generated automatically from your Asset Management Platform. These could come from Preventive Maintenance schedules specific to an asset or as the results of failed inspection line items. Work orders can also originate as work requests from individuals who notice a needed repair or who would like specific work to be done. Certain aspects of work orders can also be measured, such as: when they were performed, who they were assigned to, and whether they were performed on time. When fully integrated into an Asset Management Platform, your work orders should also record other measurements that are associated with them, like labor hours and inventory parts, and assign them to an assigned budget to assist with your tracking.

Outputs

Outputs are measurements that come from your assets after they have provided some value. In some cases, the output can measure the value the assets are generating. In other cases, they act as a measurement of current position within the lifecycle. Many outputs are also used as meters that trigger preventive maintenance schedules.

Common examples of output measurements include:

- **HOURS OF USE:** Many fixed assets have an engine-hour meter installed that increases as the asset is used. These hour meters show how many hours the asset has been running and are used as a type of "odometer" for measuring when an asset should have routine maintenance performed on it.
- **MILES DRIVEN:** Many vehicles have an odometer that measures the miles they have traveled. Similar to an hour meter, routine maintenance for most vehicles is based on the miles driven. Note that construction assets typically use an hours meter rather than an odometer.
- **PRODUCTION:** Manufacturing assets often have a method for measuring production. This is often measured as the number of times that the asset was able to successfully perform a function or cycle. On occasion, routine maintenance will be based on an asset's cycles.

Conditions

Conditions are measurements that come from a real-time analysis of an asset. This is usually while the asset is running. Condition measurements vary wildly from asset to asset, as each has its own definition of what "healthy" looks like and its own acceptable variance from the norm.

Common examples of conditions include:

- **VISIBLE DAMAGE:** One of the simpler measurements to perform is whether there is visible damage to the asset. This could be a crack in the casing, water damage, lack of functionality, etc. While the basic measurement is "yes" or "no," effort should be made to give a detailed description of what damage is currently visible and how it is affecting the productivity and functionality of the asset. This type of damage is usually reported in a work request or an inspection.
- **VIBRATION TESTING:** Some assets benefit from regular vibration testing to make sure they are functioning within a certain range. This usually comes from a sensor or inspection.

- **TEMPERATURE ANALYSIS:** Some assets are temperature sensitive. Their current temperature can influence their productivity and health. Measurement is usually done using digital sensors or through an inspection.

- **QUALITY ASSURANCE (QA) TESTING:** When an asset produces a physical product, QA testing of the product itself can give insights into the asset that produced it. Defects in the product can reveal improvements or repairs that need to be made to the asset itself.

- **INSPECTIONS:** Nearly all assets can benefit from a regular inspection. More than just obvious damage, inspections can set criteria that an asset must meet in order to be considered healthy.

Most conditional measurements look for either a pass/fail requirement or for the measurement to be within an acceptable range. The basis for conditional measurements within your organization will depend on defining what "healthy" is for your assets and checking them against that standard.

Accurate records are needed for useful measurements. Good measurements will help you know exactly what condition your assets are in so that you can do the next step: Analyze.

Keeping your measurements up-to-date and accurate enables your Asset Management Platform to inform you when it is time to perform maintenance on them and enables it to produce accurate reports, so that you can make better decisions.

Note that before you move on to the next step, it is imperative that you establish habits that facilitate accurate measurements and record keeping. Be aware of the measurement frequency. As with everything else here, accurate measurements and record keeping are not a single act, but a habit. The rewards for these habits are massive. They unlock the ability to do in-depth analysis and achieve your goals.

3

Analyze

In the previous step, we focused on accuracy and numbers. Analysis is about looking beyond your numbers to understand what is going on in your organization. This is the step where you take a good hard look at your data. First, we need to look at how to get your data into a format you can use. Then we'll look at what the data means.

Generating KPIs

Chances are, your data will not be directly useful. When you look at a vehicle, simply knowing how many miles it has driven will not tell you very much about its health or how it is contributing to your goals. Similarly, individual measurements for individual assets are not very useful. However, when you use those measurements in aggregate, you can get your KPIs and data that helps make informed decisions about your Asset Management.

First, you need to know how to get from the basic data to the KPIs. If you want to know your fleet's average MPG, you simply take an average of each vehicle's individual MPG. In some cases, the calculations are simple, but there may be some tedium involved with generating them.

This is where your Asset Management Platform comes into play. Many platforms can create reports from the data you collect.

It is important that you use an Asset Management Platform that can customize and generate reports that are significant to your business operations. Likewise, a good Asset Management Platform should be able to display your KPIs in a way that is meaningful to you and your organization.

Third, you need to make sure that generating those KPIs is a simple process. Again, no aspect of the Asset Management process included in this guide is a one-time action. If it takes you a week to generate useful KPIs, it will be difficult to perform this task more often than a few times a year. Your Asset Management Platform should make it easy to see all of your data as often as needed. Ideally, you should be able to display all of your KPIs in easy-to-access dashboards so that you can check them regularly and correct any issues as they arise.

What your data means

Now that you have your KPIs, it's time to figure out what they mean for your business. When it comes to analyzing your data, there are three big pieces that will help you understand the big picture when it comes to your Asset Management. They are:

Position looks at your KPIs and asks, "Where are we now?" Your current position is also how close you are to achieving your goals. Rather than just being a single point, it should show where you are on the path of achieving your goal, allowing you to answer questions like:

- How close are we to achieving our goals?
- What do all of our data mean together?
- How are we doing right now?

While your position shows where you are, your direction looks at your trends, which requires the ability to track KPIs. An effective Asset Management Platform will allow you to track your KPIs over time and keep a detailed record to help you determine trends and progress.

Knowing whether you are moving forward or backward is crucial to being able to improve. Evaluating your KPIs over time allows you to answer questions like:

- Are we closer to our goal than we were last time we checked?
- What trends are there in the KPI over time?
- How soon will we likely hit our goal according to those trends?

If direction tells you how you are trending, your cause looks at why that is the case. When you're starting to look at your KPIs, first look at the "1,000-foot view." Then, you can identify problems and take a closer look at them with more detail, and you will be able to evaluate the details within the context of the bigger picture.

Causal analysis can help you answer questions like:

- Why are we trending the way we are?
- If trending forward/better:
    - What is causing our improvement?
    - Is the effort sustainable or a one-time improvement?
    - Could we repeat our results here?
- If trending backward/worse:
    - Why are we sliding back?
    - What corrections need to be made to improve again?
    - Is this a one-time event or part of a pattern?
- What can we improve on our current program?

To summarize, analysis has two portions that will help you understand your organization's Asset Management. The first is generating your KPIs. You should be able to configure your Asset Management Platform to generate this automatically, showing them daily, in an easy-to-understand way. The second is determining your current position, direction and the cause of your current situation by examining those KPIs and drilling down on individual figures and details where needed.

When done in this way, it should be clear to you where your organization has the most room for improvement, and which improvements you should try in order to bring you closer to achieving your goals. Now that you've identified the weaknesses in your current Asset Management program, you're ready for the next step.

Improve

In the improvement step, change is the focus. The goal of the improvement step is not to perfect every aspect of your Asset Management in one giant push. Rather, it should emphasize incremental changes to help improve your KPIs.

We recommend choosing one aspect you would like to improve at a time so that you can measure the results of each specific action.

When you've decided what to improve, make sure you plan out your changes in your Asset Management Platform; this will most likely be in the form of work orders and inspections. Take the time to make work orders for the improvements, which also creates a book of record.

When working on your improvements, work orders and inspections should be assigned and monitored using your Asset Management Platform. When completed, watch your KPIs to see if you improve in the way you were looking for.

When you have successfully made one improvement, look for another and repeat the process. We do recommend caution during this step. If you're not careful, this step can bring opposition.

Control

In the realm of Asset Management, control does not mean having absolute control over your assets. We use control in the scientific sense, meaning to ensure that a process is repeatable. In other words, control is about making sure that your improvements stick.

When it comes to controlling your organization, automation is your friend. Automation acts to create institutional habits that set up your gains and improvements as the new norm, instead of just a one-time push.

Using an Asset Management Platform, automations should be simple.

Inspections, work orders, and PMs can each be scheduled according to individual asset logs, meters, and timetables. Notifications can also be set up to alert you when specific conditions occur, so you can monitor any needs. Much of your control is going to come from your Asset Management Platform. It's the backbone that allows you to automate all aspects of your maintenance and management work.

You should work to automate as many of the following as you can:

- **Asset information** – All information about each asset should be readily available to anyone who needs it.
- **PM scheduling** – Schedules can be based on asset logs, meters or calendar date. They automatically generate work orders when they are needed.
- **Inspections** – Inspections should be conducted on a regular basis and scheduled so they are automatically generated often enough to catch issues.
- **Inventory** – Make sure that you have the parts you need to perform maintenance on your assets. Automate low-level notifications so you can order new parts before you run out.
- **Budgets** – Your work orders and purchase orders should automatically attribute their costs to the right budget.
- **Dashboards** – Dashboards are the first thing you see when you log in to your Asset Management Platform. They should reflect the information you need to know daily.
- **Reports** – Reports should be sent to the right people and scheduled to go out when they need to see them.

When you use paper or even a spreadsheet, your data must be manually entered and manipulated. It's up to you to check all of the data and remember everything that needs to be done. If you go that route, your reports must be manually created and then checked for accuracy.

Many CMMS software suites do not have all the features necessary to track important aspects of your Asset Management, leaving an underlying gap in the intelligence of your data.

The power in an Asset Management Platform comes from its ability to work without relying on your memory or awareness, allowing you to shift your focus from running on the treadmill of reactive maintenance to a more calculated effort towards better maintenance practices.

Section 3:

The ROI of Asset Management

We hope you found this guide to be a valuable overview of the asset management process.

This guide was written with your bottom line in mind. It is intended to ease the challenges faced when putting a new asset management strategy in place.

No matter your industry, the right tools and an effective process go a long way for any organization's success.

Removing barriers to reap the benefits.

The asset management process is notoriously bumpy. But when one of the leading international supply-chain services providers implemented ManagerPlus into their operations, things started to really come together.

As they put it: Initially, their workers had reservations about adding time for preventative maintenance. Then they saw it pay off–big time. By adding inspection tasks for each service, their vehicle downtime was greatly reduced and they saw an extension in the amount of time their vehicles stayed in service.

They quickly discovered the value of automating inspection tasks and connecting the dots between their asset data. The lack of visibility is often one of the greatest barriers to maximizing the value from assets, especially across different facilities, with multiple employees, and the wide range of requirements for specific types of assets. This manifests in repetitive work, poorly designed processes, and increased frustration.

With ManagerPlus, they were able to see what was working and what wasn't, in the context of their own business operations. Every choice they made became more meaningful and they felt equipped to tackle their biggest asset management challenges.

In their words: Now their managers have better reporting tools to show tech productivity and vehicle total maintenance cost.

Applying it to your business.
Don't worry, ManagerPlus has you covered.

Having centralized places for your asset data is essential to prevent anything from slipping through the cracks. Doing so is no small feat, especially when you also have cost to consider. Selecting your Asset Management Platform ultimately should center around identifying the solution that best complements your unique requirements and goals.

We deliver a seamless experience with our configurable dashboards and reports that work to address your needs. With ManagerPlus, you'll access your information faster, run analytics better, bridge gaps with modern, mobile tools, and unify your data for a better, smarter, more flexible asset management system.

About ManagerPlus

ManagerPlus has provided businesses with Asset Management solutions for over 25 years. We're here to support your organization by keeping your assets in the best condition, minimizing costs and improving your bottom line.

If you have further questions, reach out to us and we'd be happy to help. At ManagerPlus, we are the No. 1 Asset Management Solution.

Let's start minimizing your costs, increasing your operational productivity, and improving your profitability.

Better Asset Management is one call away.

Ready to get started?