



**Controlling Unplanned Downtime
Using the mWorkOrder Mobile Plant
Maintenance Solution**

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Introduction

It's a sound no plant manager wants to hear – an alarm alerting everyone the production line has ground to a sudden halt... again. It's another unplanned downtime incident. Not only have machines stopped running, but schedules are falling behind, customer orders are being jeopardized, revenues are no longer flowing and profits are getting squeezed. Answers are in short supply. Could digital enterprise asset management and a mobile plant maintenance solution make a difference in curbing such situations?

$$\frac{\text{time asset is down}}{\text{Total Time}} \times 100 = \text{Downtime}$$

Let's take a closer look at unplanned downtime and ways to mitigate it. You'll learn about:

- **Unplanned downtime's causes**
- **Other contributors to equipment failures**
- **Unplanned downtime costs**
- **Other hidden costs of unplanned downtime**
- **Digital transformation's role in enterprise asset management**
- **Mobile plant maintenance solutions**
- **mWorkOrder's advantages in reducing unplanned downtime**

The High Price of Maintenance Inefficiency

50%

Run-to-fail maintenance costs 50% more than planned maintenance.

Source: *Processing Magazine*

Poor Maintenance Processes Lead to Unplanned Downtime

A recent survey found that half of all asset-intensive plants and facilities [still use reactive, run-to-fail maintenance](#). Studies show predictive and preventative plant maintenance programs [are much more effective](#) at cutting unplanned downtime and lowering maintenance costs.

Meanwhile, [nearly 40% of plants and facilities](#) are using paper forms for maintenance reporting. Paper forms reflect the past. They only relay information written down at the time of recording, not the data as it is in real-time. That information could be minutes, hours or even days old and thus out of date. It's practically useless for decision-making.

Major Maintenance Goals

Raise equipment reliability and uptime

Reduce reactive work

Improve in-house technician wrench time

Slice work order backlogs

Lessen overtime/outside contractor use

Increase spare parts availability

Enhance data quality

Get rid of paper forms



How much more will an inefficient plant maintenance department end up spending versus an efficient, well-run one? Up to four times as much.

Typical plant maintenance departments operate at an 18% to 74% wrench time rate. The majority perform at around 20% to 30% efficiency. That's not very efficient.

A maintenance staff operating at a 74% rate of efficiency might spend \$100 million a year to keep equipment running. Sounds like a lot until you compare it to what a plant suffering a poor efficiency rate has to pay - up to \$400 million.

Small wonder that eight out of 10 maintenance personnel surveyed preferred preventive maintenance over run-to-fail. It offers clear productivity and efficiency benefits, plus tremendous cost savings. As do the digital transformation of data collection and maintenance reporting. More on that to come.

**\$100 million
versus \$400
million**

Amount spent each year by a highly efficient maintenance program compared to an inefficient one.

Source: *Road to Reliability*

A Reactive, Paper-Based Maintenance Process Causes Problems than It Solves



More unplanned downtime



Longer production outages



Greater labor inefficiency



Less equipment reliability



Shorter asset life



Additional safety risks

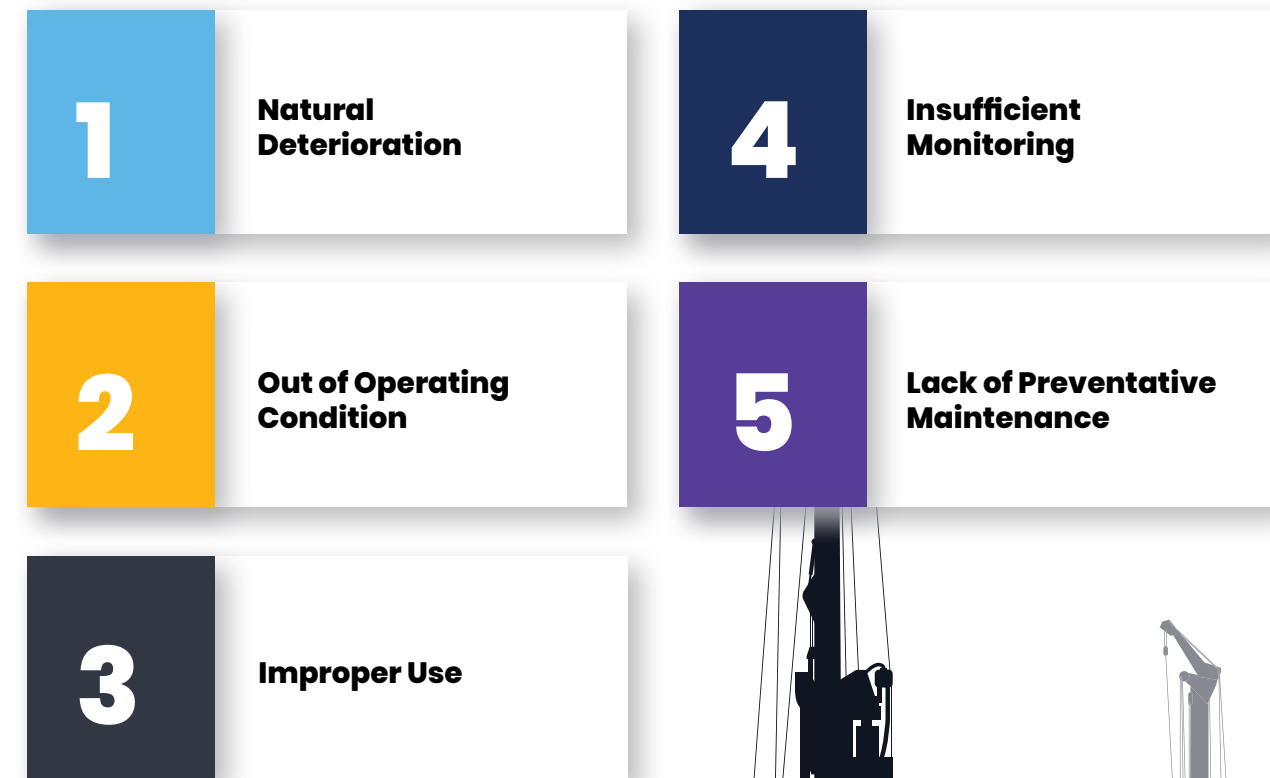


Higher maintenance costs

82% of plants have experienced at least one unplanned shutdown over the past three years.

Source: [Vanson Bourne](#)

TOP 5 CAUSES OF EQUIPMENT BREAKDOWNS



Source: [Lean Manufacturing](#), [Tap Root](#)

Other Big Contributors to Unplanned Downtime

Studies into unplanned downtime have shown that [aging equipment](#) is a significant cause of production stops. While few pieces of industrial equipment ever truly wear out, they do experience considerable wear and tear. Not properly servicing machinery on time can, and does, lead to its failure.

Aging equipment needs frequent maintenance to function properly. That's not happening at many plants. [Seven out of 10 companies](#) said they weren't sure when their machinery is due for maintenance, upgrade or replacement.



800 hours

Downtime the average asset-intensive plant or facility suffers in a year.

Source: Due.com

The Primary Costs of Unplanned Downtime

[The typical manufacturer or industrial facility](#) suffers 800 hours of unplanned downtime per year – roughly 15 hours per week on average. That downtime doesn't come without a steep price tag attached.

[Automotive manufacturers](#) can lose up to \$22,000 per minute when the production line stops. That's the manufacturers' suggested retail price of a [Chevrolet Trax LS crossover SUV](#) every 60 seconds. Overall, unplanned downtime costs industrial manufacturers as much as [\\$50 billion a year](#).

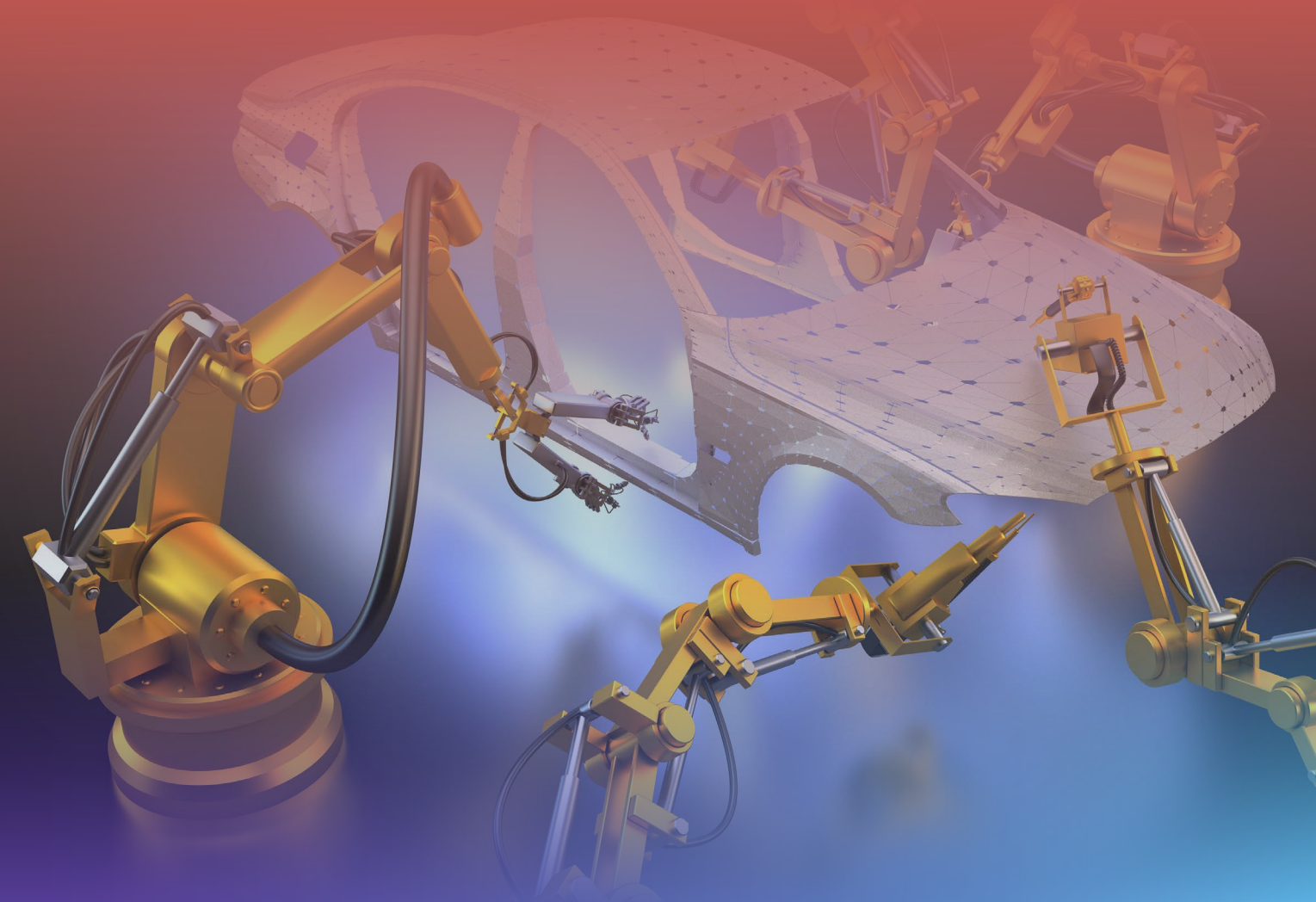
Did You Know?

Unplanned downtime can cost an industrial or manufacturing plant an estimated

\$10,000 to \$250,000

per hour.

Source: [Asset Performance Management: Blazing a Better Path to Operational Excellence](#).



Unplanned downtime comes with several other easily identifiable direct and indirect costs. The sum of these costs can be quite surprising and open a window into how much plants or facilities lose every time production grinds to a halt. Let's break them down into convenient buckets:

Labor bucket

In-house maintenance labor:

Plants must pay their maintenance staff whether the equipment is running or not.

Overtime:

Plants have to pay technicians extra (time and a half or more) if problematic equipment can't be repaired and brought into operations during the standard workday.

Outside contractors:

Plants may lack the personnel or time needed to complete a project, so they hire outside help. Or, they may need specialized skills currently not available on their in-house staff.

Capital improvement bucket

Equipment:

Machinery that can't be repaired or upgraded will need to be replaced. New machinery incurs installation, set up and testing costs.

Production bucket

Lost production:

Something not produced can't be sold.

Reduced capacity:

Downtime crimps a plant's or company's ability to increase production to meet surges in demand.

Wasted product or materials:

Raw materials that haven't been turned into finished products may have to be discarded, creating both physical and monetary waste.

Testing and quality control:

Production just can't begin rolling once the machinery is back online. Lines need to be tested first and the product needs to be quality checked before regular production resumes. This means monetary and time costs.

Finance bucket

Lost revenues:

Downtime cuts revenues since no sales are coming in while the line remains offline.

Tighter profit margins:

Decreased revenues can squeeze profit margins, but greater pressure on everyone to make up the difference.

52%

of plants don't have enough frontline technicians for their workload.

Hidden Unplanned Downtime Costs

Money and time aren't the only price manufacturers and industrial plants and facilities face when an unscheduled shutdown occurs. Other hidden factors also have to be considered when calculating the total cost of unplanned downtime to understand the true price of a production halt. Here are just a few:

Labor bucket

Idled workers:

Yes, plants are paying for the maintenance technicians, but don't forget about idled workers. Operators, line staff, shipping and receiving clerks, truck drivers, etc. are also affected by unplanned downtime and continue to get paid even though they have little or nothing to do.

Overhead bucket

Utilities:

Plants and facilities still consume electricity, gas and water even when production is down.

Opportunity bucket

Customer service risks:

Existing customer relationships are strained during unplanned shutdowns. Customers also have schedules to meet and if they can't get the product they need on time, they could cancel current orders.

Lost future sales:

Completed sales fulfillment is delayed whenever a production line is idle. Future sales are also placed in jeopardy because customers or prospects may take their business elsewhere during a shutdown and not return.

1% to 10%

**Production time lost to
unplanned shutdowns.**

Source: [Processing Magazine](#)



Using Digital Transformation to Cut Unplanned Downtime Costs

What Does It Mean?

Digital transformation is the integration of digital technology into all areas of a business, fundamentally changing how you operate and deliver value to customers. It's also a cultural change that requires organizations to continually challenge the status quo.

Source: [The Enterprisers Project](#)

A plant or facility may not be able to eliminate unplanned downtime. However, there are ways to mitigate the risks and better control its costs. One of these is digital transformation.

Too many companies still use outdated and inefficient maintenance processes and they pay a penalty for that choice with higher maintenance costs and greater unplanned downtime. They lack visibility into their operations and, thanks to manual data collection, lack accurate data to make knowledgeable, timely decisions.

Digital transformation offers an escape. It provides a way to permanently change a culture that accepts reactive, run-to-fail maintenance to something proactive and ready to confront fixable maintenance issues before they become costly downtime-causing problems.

The Three Rs of Digital Transformation

Digital transformation's three primary phases are:



Reassessment of processes



Revision of operations



Revamp of customer relationships



Digital transformation replaces slow manual processes with lightning-fast technology that emphasizes real-time information and decision-making based on field-verified data. Guesswork and assumptions based on previous experience become a relic of the past. So do troublesome information silos, where crucial data sits trapped, with little or no way to reach its intended target.

Digital transformation technology such as connected worker solutions promotes flexibility, agility, collaboration, sharing and empowerment. Frontline workers are freed from checklists and binders. Now that can complete their assigned tasks better, safer, faster than cheaper while delivering management the means to become more nimble in overcoming challenges.

Digital Transformation Benefits



Greater data collection capabilities



Additional process flexibility



Fewer information silos



Higher data accuracy



More frontline worker agility



Empowered frontline workers



Enhanced decision making



Better collaboration

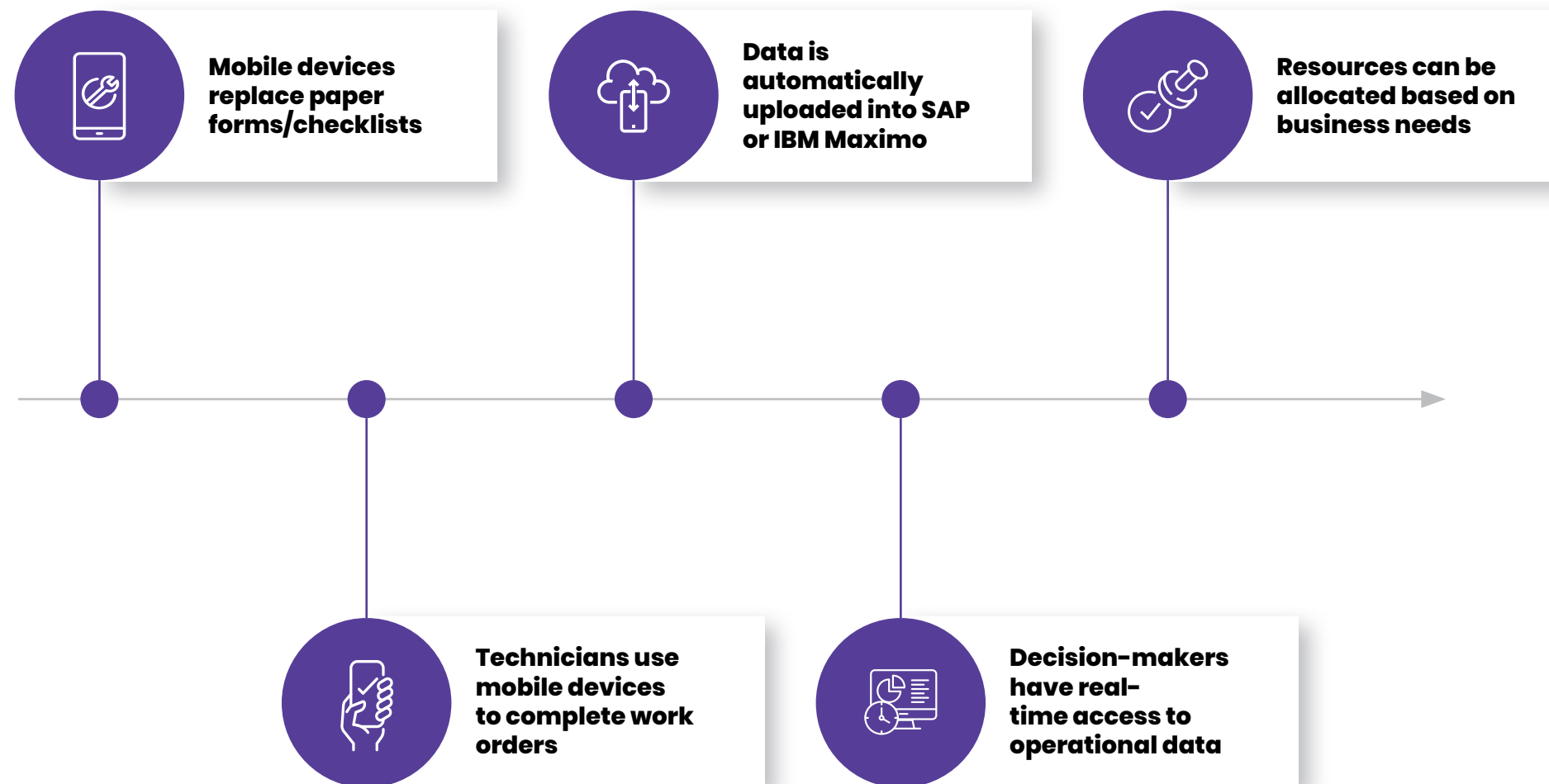


More proactive business culture

How Mobile Plant Maintenance Solutions Can Help

Mobile plant maintenance solutions are a digital transformation tool to reduce unplanned downtime incidents and costs. Instead of paper forms, technicians use mobile devices, such as smartphones, tablets, barcode scanners, smartwatches and smart glasses, to perform tasks. Information is shared with decision-makers in real-time, enabling them to make smart choices and take immediate action.

TYPICAL MINE MAINTENANCE WORK ORDER PROCESS



Mobile Plant Maintenance Tools



Smartphones



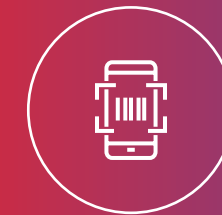
Smart watches



Tablets



Smart glasses



Barcode scanners



Drones



Mobile printers

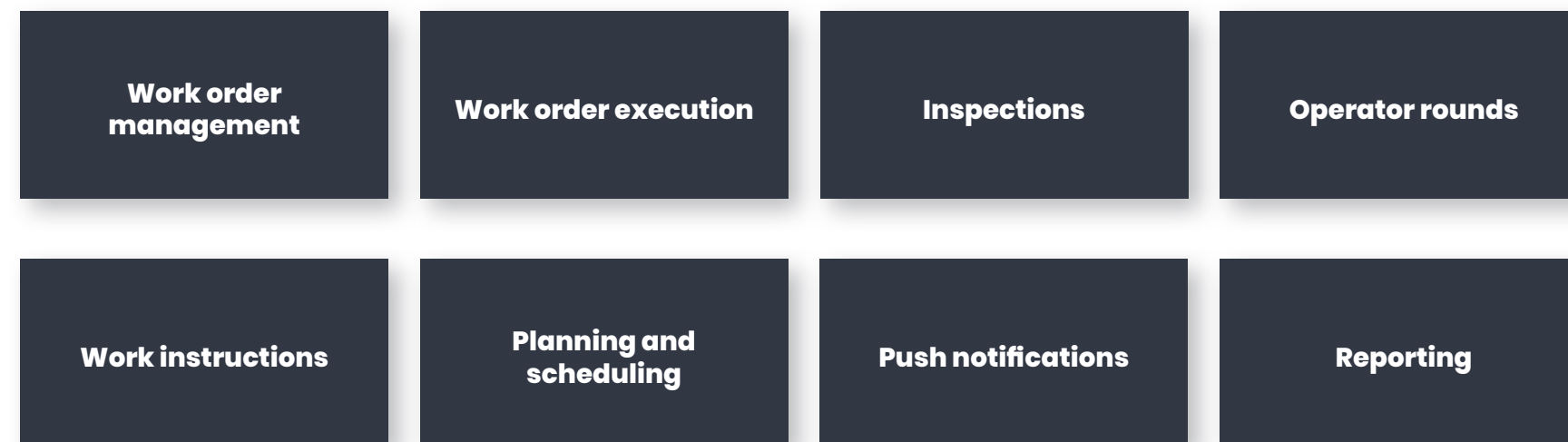
The mWorkOrder Mobile Plant Maintenance Solution

Innovapptive's mWorkOrder delivers real-time visibility into the plant maintenance process. This enterprise asset management solution works with consumer-grade or industrial rugged mobile devices (smartphones, tablets, etc.) to provide anywhere/anytime access to information, features and support.

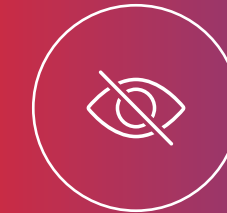
mWorkOrder:

- Cuts out workflow inefficiencies: Managers gain greater insight and understanding into how their technicians are spending their time. This gives them the data they need to formulate more efficient work processes.
- Raises productivity: More efficient work order processes decrease time wasted on non-productive tasks, thus increasing wrench time and enabling more actual work to get accomplished in a day.
- Decreases labor costs: Greater technician productivity results in less overtime or a need to employ expensive outside contractors to supplement in-house staff.
- Eliminates paperwork: Record and track time in seconds with just a few simple clicks. No more paper timesheets to fill out or upload into a back-office system.

mWorkOrder Use Cases



Maintenance Pain Points mWorkOrder Solves



Lack of visibility



Unplanned downtime



Rising maintenance costs



Reactive work



Too much overtime/contractor use



Paper forms/manual data entry



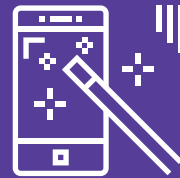
Poor wrench time



Information silos

What Sets Innovapptive Apart

Several key features differentiate Innovapptive's mWorkOrder from similar solutions now on the market.



Customization – Innovapptive's solutions rely on the proprietary, patented RACE™ (Rapid Application Configuration Engine) platform that enables no-code/low-code customization. Configure applications for site, role, user and geographies. Quickly respond and adapt to changes, better align the apps to your unique business requirements.



Integration with ERP systems – Innovapptive's solutions seamlessly integrate with ERP systems, such as SAP and IBM Maximo. Managers and frontline workers gain quick access to key data and support.



User interface/user experience – Innovapptive's solutions are intuitive and easy to use with a minimum of training required to be productive. Satisfaction leads to high user adoption rates, resulting in a positive return on investment.



Enterprise-grade security – Encrypted, stateless, single sign-on with consumer-grade experiences such as Face ID and Touch ID keep your data safe and out of the wrong hands.



Online/offline modes – Utilities often operate assets in areas with poor or no Wi-Fi infrastructure. Innovapptive's solutions have online/offline modes, allowing frontline workers and managers to be productive even when there's no Wi-Fi signal. Take advantage of rapid synchronization after restoring a connection.

What Results Can You Achieve with mWorkOrder?

Greater Asset Uptime

>98%

Eliminate Preventable Failures

Reduce Backlogs

50%

Simplify work planning and execution

Increase Wrench Time

20%

Gain productivity by eliminating paperwork

Cut Reworks

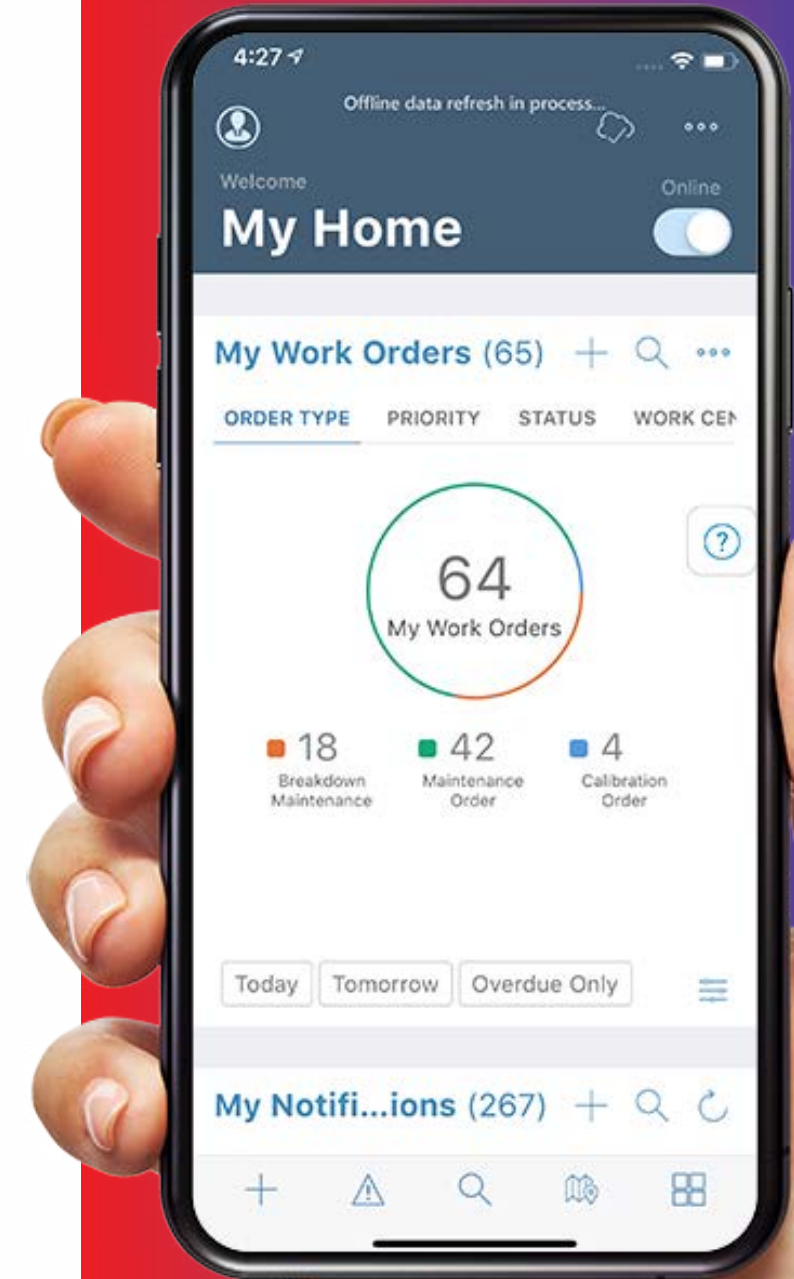
20%

Get project done right the first time

Reduce Safety Incidents

40%

Standardize work and prevent accidents



Based on customers' best experiences.

See a Free Demo of mWorkOrder in Action Today

Innovapptive offers the only connected worker platform that digitizes the last mile of frontline workers into SAP and IBM Maximo. We can empower you to reimagine your operations and save millions of dollars on maintenance costs.

Schedule a free demo of our world-class mWorkOrder, then call **888-464-6668** to speak to our industry experts. They'll be happy to answer your questions, help you calculate downtime costs and return on investments, identify opportunities for efficiencies and savings, and explain how mobile plant maintenance can benefit you.



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