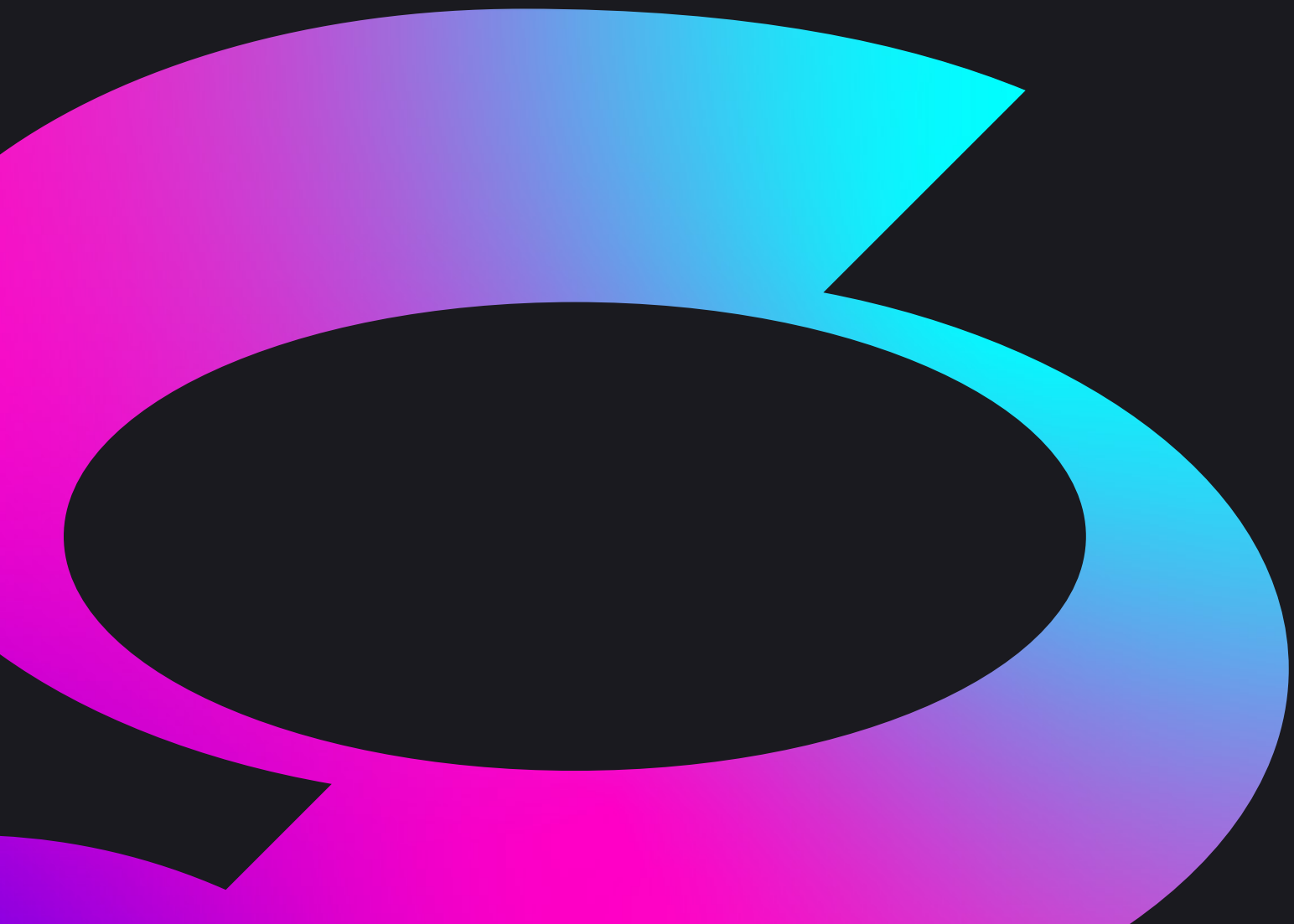
WHITE PAPER

Considerations for transitioning from paper Permit to Work to digital Control of Work solution



Operations, safety and engineering executives often struggle to create a strong business case for moving from a paper to an electronic Permit to Work (PtW) system. This can be for several reasons both internal and external, but one thing we can be sure of is everyone who has made the switch has benefited in multiple ways.

Despite the numerous benefits, there are several things to remember when making the transition, ranging from ways to get employees and other stakeholders to buy into the features your electronic PtW infrastructure should include. By factoring in these considerations, you can enjoy a smooth transition from a paper to a digital PtW system.

What is a Permit to Work system?

Step one is to ensure everyone involved understands what a Permit to Work system is and how it works. A PtW system refers to an organization's standard operating procedure for issuing written authorization to carry out tasks or jobs deemed hazardous or potentially dangerous. A Permit to Work form includes detailed instructions about the job's work scope and the time and location, as well as information about the vital safety precautions that must be observed and, in many places around the world, a PtW system is a legal requirement.

Keeping this in mind, it's important to ensure your digital Permit to Work system satisfies these requirements:

- It drives the required approvals from defined roles through the permit lifecycle
- It outlines the roles and duties for each specific assignment
- It clearly describes any potential risks to employees and the essential safety measures to take
- It describes the assignment, timetable, list of tasks to be completed and detailed directions as to how to carry it out
- It supports a comprehensive set of risk assessment methods that can be applied to assess the job according to its hazards
- It incorporates a comprehensive set of tools to help manage key operational risks such as confined space entry, isolation management (LOTO), site audit/ inspection, safety equipment checks, personal safety training/competency checks and more
- It provides a record stating the work permit's status, such as whether it's requested, approved, issued, live, returned, closed, suspended, reissued, etc.

Why switch to a digital Permit to Work system?

This is a fair question, especially considering that it may seem – on the surface – that a paper-based one has been working well. Here are some of the top reasons that drive successful organizations to make the switch:

Better visibility

Aided by a well-documented system, a digital Permit to Work system makes it simple for businesses to streamline operations and mitigate safety consequences.

You unknowingly endanger yourself and those around you when working without an adequate PtW. There is a risk of conflicting work being carried out on neighboring production units under a paper permit system; a digital system increases the visibility of work – a central repository of all planned and ongoing work and its status helps unit shift leads manage and coordinate work more effectively and minimize this risk.

Enhanced safety

A critical function of Permit to Work is to ensure clear, concise communication of the work scope, identified hazards, mitigating controls and required personal protective equipment (PPE) for the job. A digital system helps drive consistency in the assessment and specification of mitigating controls and PPE across all business units; leaders can be assured that standard approaches to hazard management are clearly communicated to all work crews.

With a digital solution, it's easier to ensure all personnel have their own easily accessible copy of the PtW. This makes it easier for them to quickly reference it, gain an understanding of the safety measures required, then implement them right away.

Clearer accountability

PtW is a critical work process that ensures employees and contractors are given appropriate permission to carry out approved specific jobs at specified locations at a specified time – typically within a shift. With a digital system, the workflow rules for these approvals and the handover between operations and maintenance teams are rigidly defined. With a digital system, everyone understands the role-based approvals required before work can commence – it is no longer possible to short-cut the process or skip approval steps – the level of accountability is clear to all stakeholders.

Improved analysis

Digital PtW also enables integrated audit. Desktop and worksite audits using mobile devices in the field can gather structured information on PtW process health and work practices. This data can be used to drive improvement programs for both the PtW process and risk assessment practices.

Focus on the end objective: a better overall system

As with any business initiative, it's critical to keep the end goal in sight during all phases of the transition lifecycle. Here are some of the problems that companies have been able to overcome by making the switch from paper to digital:

- The paperwork required for obtaining a Permit to Work and getting contractors on-site takes time, can be resource-intensive and is frequently ineffective.
    - This situation is only exacerbated during outages and turnarounds when the number of permits quadruples
    - While there is a requirement to post paper permits at the worksite, there is little visibility about the status of that work for those not directly involved - others impacted, perhaps in other departments or neighboring production units may be unaware
- Paper can be limiting in terms of site and job visibility and can also make it more difficult for departments to communicate effectively. This is important for being aware of a potentially hazardous activity that's taking place on-site.
- Paper-based systems often fall short when it comes time for audits. The responsible person has no way of knowing that all safety and site rules have been adhered to. Also, there's no real understanding of when compliance issues have been met or missed.
- Due to improper physical storage, poor storage conditions, inadequate file systems and out-of-date record-keeping practices, permits are frequently illegible and hard to find.

Money talks: consider the payoffs

The main factors for many businesses switching to an electronic system are to improve process compliance and to manage operational risks more effectively. However, saving money – and resources that cost money – is a powerful motivator for those who may be a little reticent about digital PtW adoption.

There is a persistent misconception that a Permit to Work system based on paper is cost-free and that paper itself has no cost. But by taking even a cursory glance at the processes involved in a paper-based PtW system, several cost savings reveal themselves:

- Each person involved in creating, printing and administering each paper document has to invest time and energy that could be better spent on tasks that help generate revenue
- People who have to store and manage paper documents, such as file managers, administrative assistants and HR staff could invest their time in other activities with greater value-add
- Save on costs of procurement, production, storage and distribution of pre-printed paper permit stock

- For companies that dedicate storage space for their paper permits, the costs associated with this are also greatly reduced. Some organizations may also hire storage companies to maintain their PtWs, so a digital system would eliminate this cost.

Time-saving considerations

You also save considerable time when moving from paper to digital. Some of the primary time-savers include:

- When creating or requesting permits, users can use the electronic system to quickly find the last time the task was done at the site and copy that permit and risk assessment for review and re-submission for approval
- Efficiency of issuing permits at the start of shift is greatly improved by using an electronic system, improving time-on-tools at the worksite
- When it's time to retrieve a PtW, either for an employee to review or for an internal or external audit, there's no need to physically go find it, dig it out of a filing system, retrieve it, and then put it back

Considerations regarding how an electronic system helps ensure compliance

How an electronic PtW system aligns drives compliance standards makes up one of the most important considerations, particularly because the ramifications of noncompliance can be monumental. There are three aspects to compliance:

- Process compliance – i.e., workflow rigor, driven by the electronic system
- Competency compliance – i.e., people are presenting for work who are suitably experienced/qualified and that their training is up-to-date – users have their qualifications to work on the unit tracked; if their training expires, users cannot take part in the permit process until re-validated
- Audit to check of process compliance and worksite practices

Audit considerations

Once an audit is planned, you no longer need to worry because you have access to current contractor and PtW data in real-time. The permit report functionality and worksite enablement of standard audit questions and responses of a digital PtW system allow users to instantly retrieve this data from any location and at any time. This enables each site to quickly pass audits thanks to the efficient document delivery process and mobile devices.

How a digital PtW enables better visualization

With a digital PtW arrangement, users obtain a real-time view of the locations of the work being done, the locations where PtWs are needed and the locations where the status of the PtW is open, resolved, or in progress. Visualization of where within a unit PTWs are issued provides visibility to safety-related information such as breathing air connections, too many people in one area, etc.

You can also identify any work that conflicts with the standards set forth in the PtW, which enhances your risk management. When businesses switch to an electronic solution, we frequently hear how pleased, assured and relaxed they are since they feel they're in compliance with and in control of their safety processes.

Take the opportunity to standardize

There are several different permits to work, including confined space work permits, chemical work permits, hot work permits, cold work permits, excavation work permits, energized and non-energized electrical work permits and height work permits. Often different PtW types are used at different sites; an electronic PtW system implementation is an opportunity to standardize on the core set of PtWs that you need to manage the hazards across your business.

Confined spaces work permit

A confined spaces work permit is used to obtain authorization to carry out tasks in an area that may be dangerous due to asphyxiation, dangerous substances, toxic air and more. Confined spaces also include vents, shafts, sewage systems, tanks, etc.

Chemical work permit

A chemical work permit provides authorization to work with dangerous chemicals or in an environment that is toxic or corrosive by nature. It's particularly useful for chemical engineers who primarily operate in laboratories and chemical plants.

Hot work permit

A hot work permit facilitates permission to carry out tasks that cause sparks, flames, or any other kind of ignition. Welding, grinding, working with dangerous gases and other heat-producing activities are common examples of conditions that require hot work permits.

Cold work permit

A cold work permit is used with equipment or tasks that don't have the potential to cause sparks or flames. Cold work permits may be used when there's machinery being used in the bending, shearing, squeezing and pulling of material.

Excavation permit

Personnel must have permission before they can excavate or dig to create infrastructure, get resources or uncover buried plant or equipment. There are a variety of risks associated with excavation, such as falling, getting trapped, explosions and airborne toxins, and an excavation permit addresses and mitigates these. Excavation past a certain depth requires a Confined Space Entry (CSE) permit.

Electrical isolation permit

An electrical isolation permit is used for those who work in high-voltage areas where electricity is likely to be transmitted through arc flashing. Electrical engineers frequently handle and maintain lock-out systems and perform site maintenance. And while they might be the permit authorizer, the work is performed by technicians.

Height work permit

A working at height permit focuses on maintaining safety during the use of ladders, scaffolds, mobile elevated work platforms and other raised surfaces that are 4 meters or higher off the ground.

Consider the benefits of creating additional permit and certificate types for your business

While these are the most common work permits and they cover the typical work tasks of many organizations, you may also have to create additional ones specific to the hazards of your business. With a digital Permit to Work solution, creating and managing these documents is quicker and easier.

Efficiency considerations while transitioning to digital PtWs

By digitizing the Permit to Work system, it's possible to do away with the tedious Excel-based or paper-based operations typically connected to a manual PtW system. With the help of an electronic permit system, you may streamline the entire procedure to produce an infrastructure that's constantly connected, simple to use, highly collaborative and enables greater accessibility and control over permits.

Transitioning to an electronic PtW system also provides the opportunity to streamline the site's PtW process without compromising safety. For instance, it would allow the maintenance planner to begin the PtW process that saves time later, especially if it's a repetitive type of work.

Here are some of the key efficiency considerations when making the digital transition:

Instant assignments

Pushing information to the appropriate people at the right moment enables instantaneous authorizations and feedback without having to deal with latency issues or unplanned delays. A central database that can be accessed from even remote locations using any connected device, including your mobile phone, can be instantaneously updated and retrieved for all permit-related actions, including granting, copying, revoking and closing permits.

Better collaboration

Increased communication leads to greater collaboration because management and workers on-site can stay in touch. This enables real-time updates on the status of the safety permit.

Immediate notifications

You can receive immediate notifications and alerts on request, as well as get escalation reports, permit activity, and status updates using the appropriate chain of management and you can also, track changes such as who is signed onto the permit and who is no longer on the permit.

Items to include in your Digital PtW

Thorough record of every aspect of the work permit can be used to generate a Permit to Work checklist	This template should include all requirements for a work permit, including information about the job itself, safety precautions to be taken, worker profiles, emergency procedures, authorizations and the length of the job.
Comprehensive list of authorizations and credentials	This should include the creator, permit user, granting authority, site checker and other significant names, titles and signatures. Reference number and permit title. This is used to clearly identify the Permit to Work form to make it simple to save and retrieve permits.
Job duration and location	By ensuring your digital PtW system includes a job schedule and location details, you make it clear where the work will be performed, when and how this plays a role in the safety precautions that apply.
Unit, floor or area identification	This will make it easier to locate the particular plant where the task needs to be carried out.
Work description	A work description includes a thorough account of the task to be completed, including the steps to take, the parameters of the project and any restrictions.
Hazard identification	Identifying hazards involves a comprehensive accounting of all hazards that workers may face while on the job, resulting from what they may have to deal with while working and residual effects of work conditions. This could include physical injury, radiation, electric shock and more.
Preventative measures	These involve safety precautions to prevent any potentially dangerous situations on the job.
PPE	This includes a list of the safety equipment required to do the task at hand. Depending on the job, the safety equipment may include gloves, a respiratory mask, a safety helmet, footwear, a harness and more.
Permit sign-off	This is the last section of the Permit to Work system, and it requires you to indicate whether the job has been finished and usually requires an onsite walk-down.

Properly plan your PtW implementation

Here are some high-level considerations that are pivotal to a successful PtW system:

1. Make sure everyone in your firm understands the value of a Permit to Work system and when it should be used.
2. Provide your staff with a sufficient and thorough training program. This is a legal requirement in the U.S.
3. Ensure that no work is performed without a valid PtW.
4. Ensure that all necessary permissions are obtained before the job is started.
5. Ensure that the finished permit is appropriately managed and stored.

To ensure you meet these objectives, there are a few critical steps you can take. In this way, your implementation can be relatively incident-free, enabling a smoother transition from paper to digital.

Inform all stakeholders

Keeping all stakeholders informed makes it much easier to maintain a sense of mutual, trustworthy communication. It's important to keep in mind that a Permit to Work system significantly affects the day-to-day activities of employees and other stakeholders. But by clearly communicating both the details of the digital transition and its benefits, you can ease any concerns regarding why the change was deemed necessary.

For example, some stakeholders may feel that you're questioning their professionalism by moving to a digital system. They may think you're making the switch because you don't see them as reliable or responsible enough to work within a paper system. But by outlining the real reasons, you can ease any anxiety and even reiterate how much you appreciate their professionalism. Engaging in proper change management activities is key to success.

But if you neglect to let each stakeholder know about the transition, you could accidentally engender a sense of distrust in your workforce and management team. So it's best to communicate with transparency, empathetically considering how change often makes people feel. In this way, you can achieve better buy-in and personal investment in the new system.

Design a timeline

Establishing a timeline and project plan for the implementation is critical to success. This is primarily because it enables your team to organize when and how they will build the digital forms and how they will evaluate the success of each implementation.

For example, suppose you run a large construction company that focuses primarily on commercial clients. You frequently get jobs for office buildings, and while some of those are similar, you often come across work environments that require very specific PtWs.

You decide to transition from paper to digital, and you currently have two large operations in progress. One is the construction of a standard, four-story office building in the middle of a sparsely populated suburb. Another is an addition for a pharmaceutical company.

Even though the four-story project may require a PtW that's very similar to that of many of your other jobs, the pharma project puts workers in close proximity to dangerous chemicals that pose significant - and unique - risks. Further, there are several phases of the pharma project, and each will require a different PtW.

In this situation, it may be better to create a timeline that puts one job ahead of the other, instead of doing both at the same time. In this way, you can learn from the transition of one, using the twists and turns you encountered – if any – to better inform how to transition to the next. But also, because the two projects are so different, it could be easier for the team to hyper-focus on one, taking into consideration all of the elements before committing to a final product.

The above holds true especially when you either have to create a new PtW or have to make considerable changes to an existing one.

Chunk the implementation one department/division at a time

Each department in your company – regardless of how big or small they are – likely has its own professional culture. Often, the differences between the attitudes of individual departments are most obvious when new technology gets introduced into the workflow equation. If you anticipate some cultural friction with your transition from paper to digital, you may want to make the switch one department at a time.

For example, if you run a commercial construction company that takes on a lot of projects for the city, you may have one division for plumbing- and sewage-related jobs and another for electrical work. The sewage work may require a confined space permit, while the electrical projects may need electrical permits.

Instead of transitioning from paper to digital for both divisions all at once, it may be better to do one before the other. This not only makes it easier for you to zoom in on the needs of each category of work, but it also gives you a chance to invest a little more time in training those who may be a little hesitant to accept the change.

Implementing the digital PtW system in chunks also gives you a chance to optimize the training program, however simple or complex it is, according to the needs of individuals in each department. This is often preferable to presuming a one-size-fits-all approach will be effective for all stakeholders.

You may still need paper permits

Despite the benefits of digital permits, some situations may still call for paper copies. A tangible copy of a confined space permit, for instance, may be required to be posted for all permitted entrants to confirm pre-entry preparations are finished by regulatory agencies like OSHA for example the record of gas testing.

This is why you should ensure that the digital PtW solution you select will support printed outputs.

Incorporate electronic and digital signatures

The requirement to obtain physical signatures on PtW forms is one of the main issues we run into. To reduce the chance of complacency – and since a signature has more weight than a mere check in a box – signatures are frequently preferred to checking boxes.

In that instance, digital PtW systems would not be practical since each form would still need to be printed, signed and scanned. But with electronic capabilities, digital signature capturing is a possibility, so you'll still be able to sign forms. Additionally, because it is possible to see who, when, and where a signature was made on a document, digital signatures are much more secure than physical ones. Also, they're far more effective, speeding up the printing, signing and scanning processes.

Given this, digitizing a PtW system so it can be used on portable devices like iPads can make the process easier for many users. The transition will be much more painless if a solution can be found that supports this functionality. This holds true even if printing capabilities are available.

Implement a rule enforcement strategy

While no one wants to be a stickler for the "little things," there's nothing "little" about PtWs. In addition to the health and well-being of workers, the safety of clients and the financial viability and professional reputation of your company are at risk. Therefore, it's critical to implement a rule enforcement strategy.

For example, you may want to consider:

- Using a rewards system for departments that do a good job of making sure everyone signs and conforms to the PtW
- Scheduling friendly, considerate check-ins regarding compliance with your PtW policies
- Including PtW compliance as an element of the employee review process

Find a vendor who understands your ecosystem

The success of your implementation will depend on your ability to identify a vendor who will invest the time to learn about your business and needs. A successful digital PtW system necessitates preparation, instruction and careful management. To ensure all requirements are met, workshops should be held to ensure everyone is on board and understands the value of the system. User acceptance testing should ideally come after this, and then train-the-trainer instruction should come last. This is when those identified as trainers get the instruction they need to teach others in your organization.

This strategy seeks to reduce the risk of customer rejection by identifying problems early on, which builds trust with your vendor and reduces costs.

How Octave Tempo Control of Work (formerly j5 Control of Work) can make your switch easier

Octave Tempo Operations Management (formerly j5 Operations Management Solutions) offers a tried-and-true system with scalability for the enterprise and spreadsheet-like configurability. It consists of a fully integrated suite of capabilities for frontline operations management:

- Tempo Control of Work delivers digital transformation of your PtW, task risk assessment (JHA/JSA) and isolation (LOTO) work processes
- Octave Tempo Operations Logbook (formerly j5 Operations Logbook) records, tracks and manages key operational shift events
- Octave Tempo Shift Handover (formerly j5 Shift Handover integrates Tempo Operations Management information with and other relevant data sources to support consistent, safe and fully-informed shift-to-shift communications and documentation
- Octave Tempo Standing Orders (formerly j5 Standing Orders) enables the distribution and tracking of operator instructions
- Octave Tempo Work Instructions (formerly j5 Work Instructions) and Event Manager can control the constant flow of job instructions and finish any task efficiently and productively. This can help eliminate miscommunications regarding the job status connected to each PtW.
- Tempo Operations Management IndustraForm® Templates enables you to use a single digital platform that combines business functionality and spreadsheet configurability to combine paper and electronic forms
- Tempo Operations Management IndustraForm Designer streamlines the process of creating PtWs so they meet your company's objectives

Get started with your paper to digital shift today

With Octave's Tempo Operations Management system, you have all you need to enable a smooth, straightforward transition from paper to digital PtWs. Keeping the above considerations in mind, and leveraging Octave's tools, you can provide everyone on your team with a smooth digital transformation process. Learn more by connecting with Octave today.

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.