

REPORT



The State of Digitization and Connected Work on the Manufacturing Frontlines

A 2023 research report examining the state of digitization and connectivity in the manufacturing industry, from the perspective of its frontline workers





“The future of advanced manufacturing and production requires a re-imagination of what it means to work in manufacturing. New technologies that put operators and workers in the center are critical in order to bring true digital transformation to life. This new research from Parsable confirms the enormous opportunity for industrial companies to empower their workers, attract and retain younger generations, and ensure the wellbeing of their most important asset: their employees.”

Francisco Betti

**Head of Advanced Manufacturing and Production,
World Economic Forum**



Digitization in manufacturing

With the rise of technology in every industry, going “digital” and modernizing manufacturing operations are now widely regarded as table stakes to keeping up. When many manufacturing leaders picture digital transformation, they think of humanoid robots, wearable devices at scale, advanced machine learning, and artificial intelligence. However, digitization as a means of connecting and empowering the human workforce is often overlooked.

Humans are still at the core of manufacturing and supply chain. Amazon alone added 427,300 employees in the first 10 months of 2020.¹ According to the US Bureau of Labor Statistics, millennials will comprise 75% of the workforce by 2030.² However, the talent pipeline is shrinking for the industry, with nearly half ranking manufacturing as the second-to-last career choice.²

It’s clear that companies need to focus on agility, from the shop floor to the top floor and across the entire value chain. At the forefront of these considerations are human workers and the need to empower them to be successful. *But how?*

The solution is putting intuitive technology and modern digital tools in the hands of frontline workers and operators. These workers have a much greater capacity to be efficient, productive, and safe when utilizing digital, dynamic, and data-driven processes over outdated, paper-based systems. Connecting frontline workers with access to digital solutions isn’t just about improving operational performance — it also supports talent recruitment and retention.

Parsable set out to find out how quickly manufacturers are adopting digitization on the factory floor. We surveyed 1,168 U.S. frontline manufacturing workers to understand the technologies they are being given and the effects of using digital tools in the workplace.

This industry report provides new data on the state of factory work, the role that technology plays in workers’ day-to-day, and key opportunities for managers and executives to improve

KEY FINDINGS

Frontline workers are quick to embrace digitization.

In the past, management may have resisted digitized workflows because of the fear that technology would be difficult for their teams to use and integrate into their everyday operations. Our research found that 72% of today's frontline workers have no concerns and are ready to adopt and embrace digital tools.

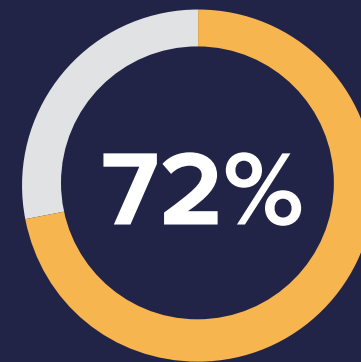
Companies that don't close the digital gap will lose frontline talent.

Adopting an innovative mindset can make the difference between keeping or losing top talent. More than half of respondents say the opportunity to work in a more modern environment would influence their decision to leave their current company. With 2.1 million manufacturing jobs predicted to be unfilled by 2030 due to skills shortages⁴, companies need to consider digitization as a crucial retention and recruiting strategy.

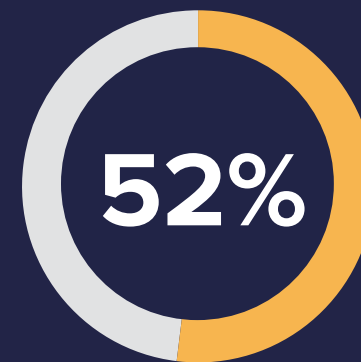
Manufacturers are missing opportunities to digitally empower frontline workers.

Fewer than half of frontline workers surveyed have been offered digital platforms to help them access the data, resources, and visibility they need. With 79% percent of workers still relying entirely on paper, management in lost visibility and opportunities to improve productivity, quality, and safety at scale.

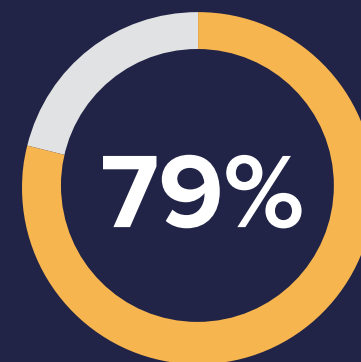
Frontline workers want access to digital technology to best perform in their jobs.



of frontline workers are ready to embrace digital tools



would consider leaving their jobs for a digitally-driven environment



still rely on paper-based processes to drive safety and productivity

KEY TAKEAWAY

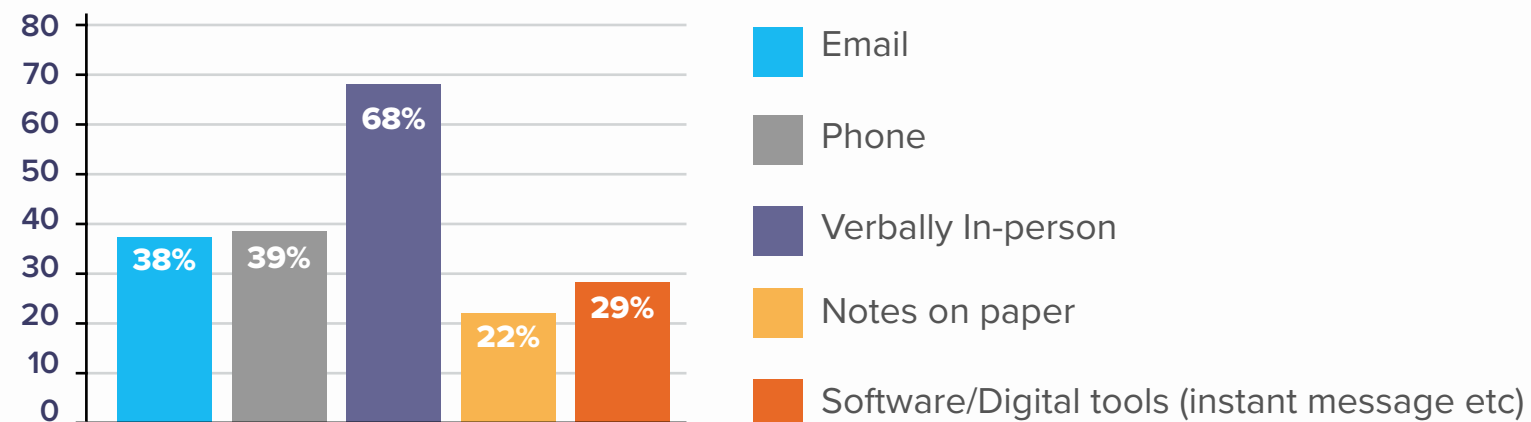
The Disadvantages of Manual, Paper-Based Processes

Despite the acceleration of digitization of many areas of industrial operations, there remains a significant opportunity for companies to empower frontline workers through technology.

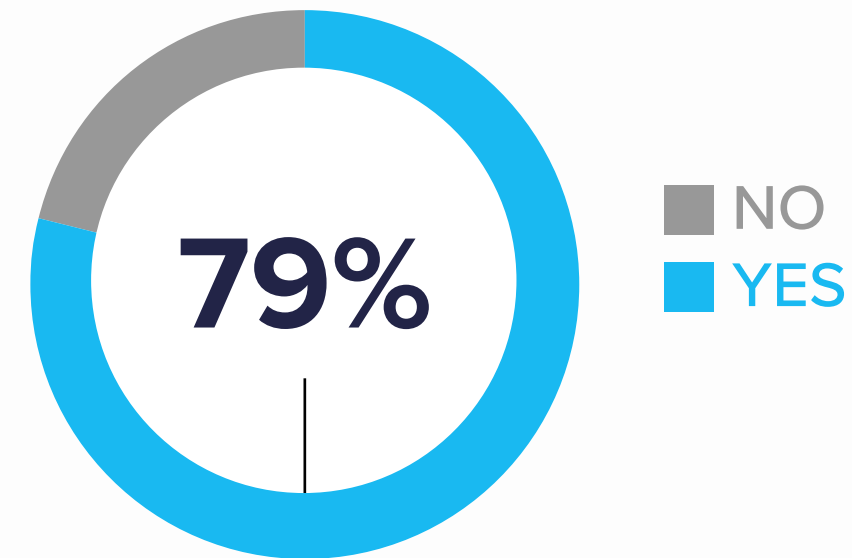
47% of frontline workers have been given mobile technology to help them do their jobs and 16% of respondents say they have never leveraged digital tools to help them in their work. If that's the case, how are these workers currently getting their jobs done?

The answer is this: workers are relying on manual, paper-based documentation and systems, which are ultimately detrimental to operational efficiency and productivity. One common example is using paper checklists to track progress, which are difficult to duplicate, search, and update. This creates an ongoing challenge for workers who need clear, current, and easily consumable instructions at their fingertips.

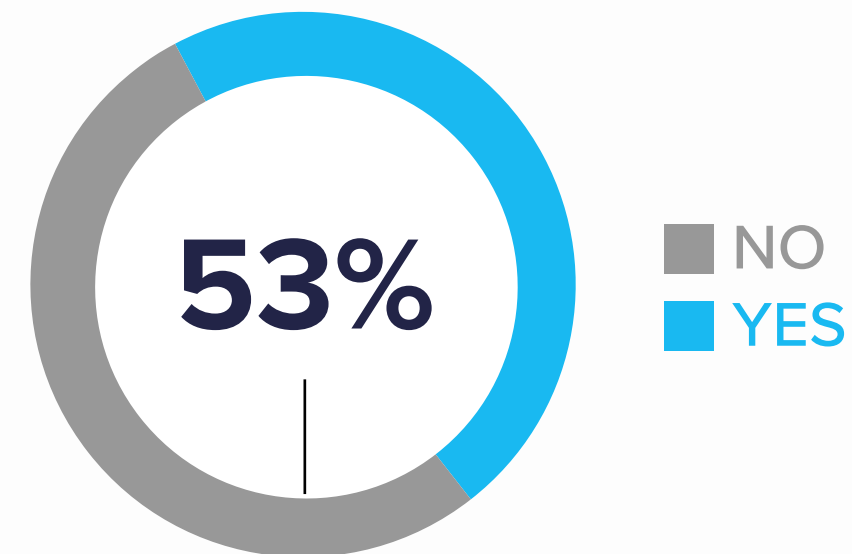
How do you primarily communicate with other teammates?⁶



Do you use/rely on paper to follow work instructions and/or track your work?



Has your company given you any mobile technology (smartphone, tablet, wearable, etc.) to help you do your job better?



KEY TAKEAWAY

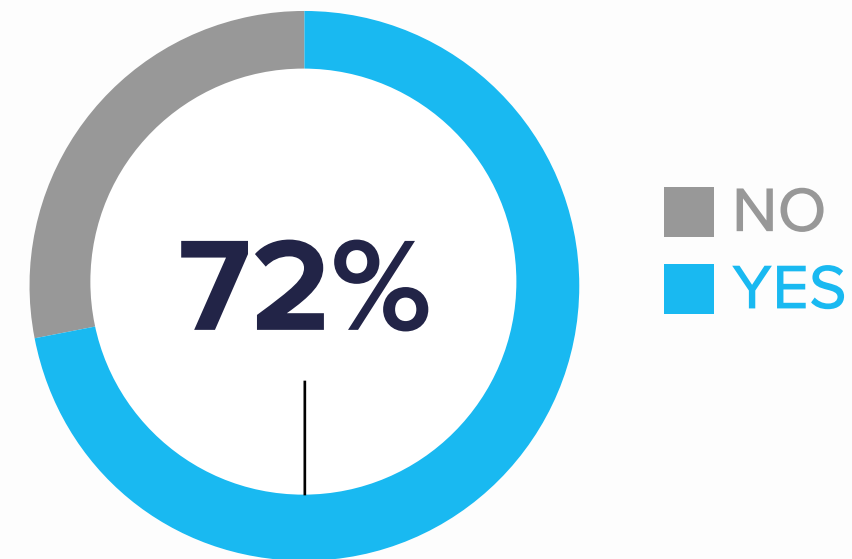
Frontline Workers Welcome a Shift to Mobile and Digital Tools

For years, management has held onto inefficient, paper-based checklists and SOPs to track procedural adherence and compliance, thinking that it would jeopardize production or wasn't worth the time and resources to implement and train their frontline.

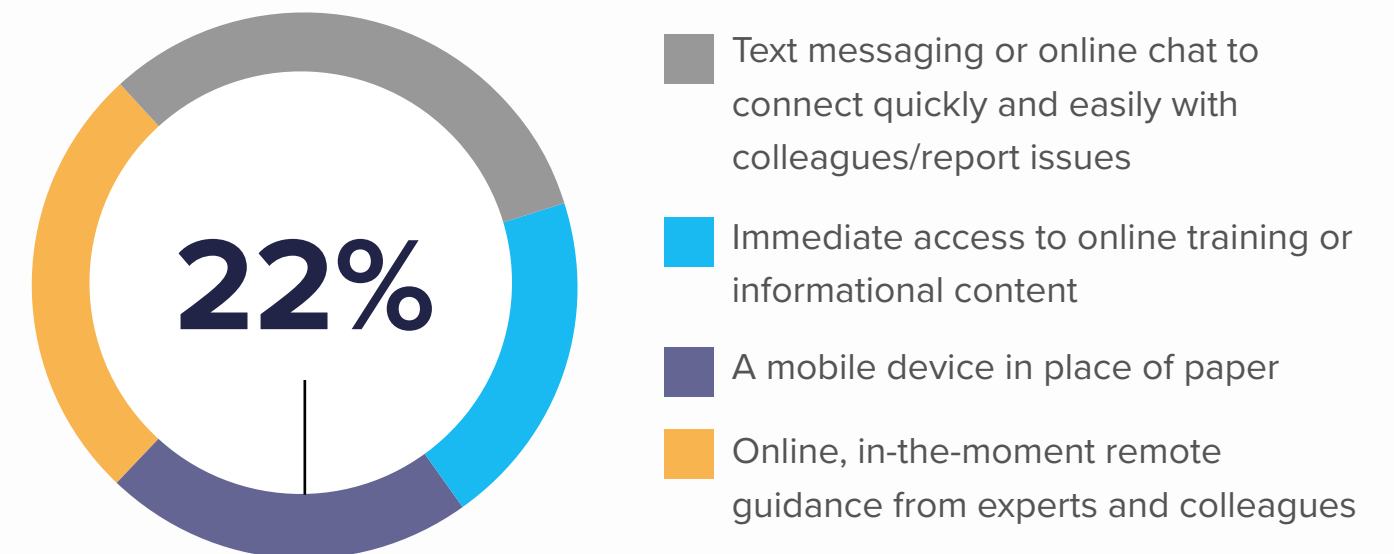
This is no longer the case.

Digital technology is now ubiquitous in our everyday consumer lives and enterprise software has become significantly more user-friendly over the years. 72% of frontline workers express no concerns about using digital tools in the workplace. This sentiment carries across all generations of the workforce, including Baby Boomers, with 69% of those over 54 years old having no concerns. Additionally, respondents say texting or online chat is the most important type of digital solution that would help them work better, while 22% say having a mobile device would be the most impactful.

Do you have any concerns about using digital tools (specifically software, applications, etc.) in the workplace?



What type of digital solution would help you work better the most?



KEY TAKEAWAY

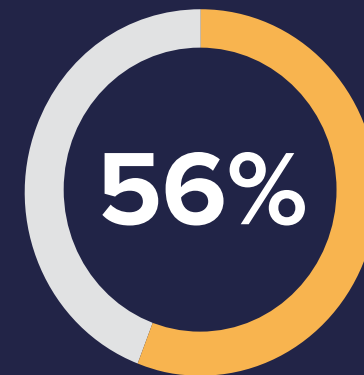
Employee Recruitment, Onboarding, and Retention: Digital Maturity Matters

Beyond the impact on day-to-day operational efficiency, the existing digital gap impacts companies' ability to attract and keep frontline talent. In our survey, frontline workers communicated a strong desire for moves toward digital maturity and new ways to improve their overall work satisfaction, productivity, and safety.

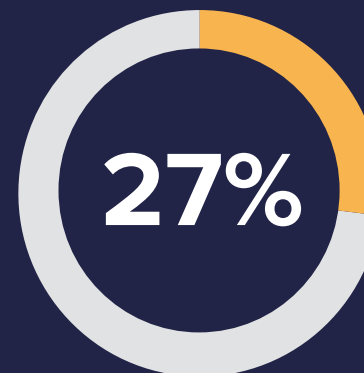
More than half surveyed said the opportunity to work in an environment that embraces innovation would be part of a decision to leave their current employer. Additionally, nearly one-third of respondents believe that management does not listen to employee recommendations for improvements in the work environment – a red flag for both plant managers and human resources departments.

Our research also confirms that digital-native Millennials and Gen Z are prone to short tenures; 56% of these younger workers have been in their current manufacturing jobs for less than two years and 27% intend to move on to a different company within two years. Unless companies make the move towards digitization for their frontline workers and show that they value their feedback, they can expect employee turnover to rise.

By the numbers: Digital-Native Millennials and Gen Z



of these younger workers have been in their current manufacturing jobs for less than two years

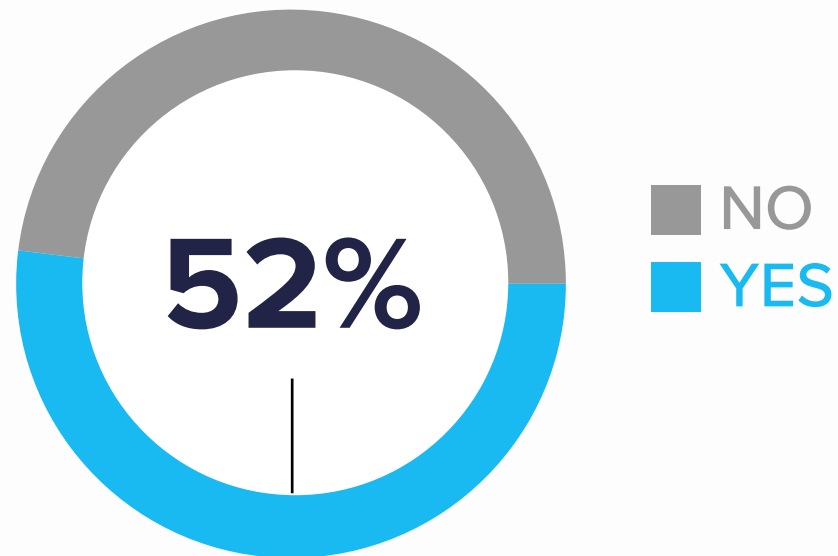


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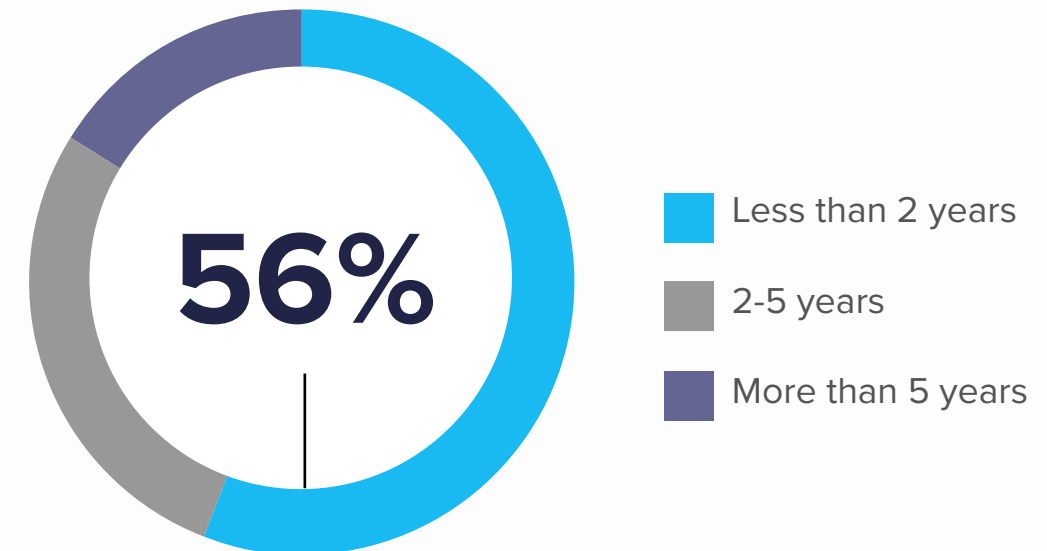
KEY TAKEAWAY

Employee Recruitment, Onboarding and Retention: Technology Matters

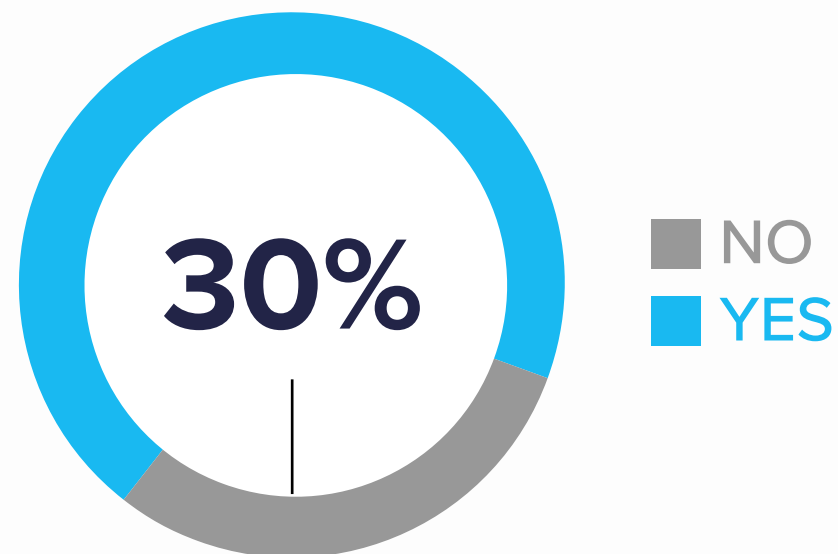
Would the opportunity to work in a more modern, digital environment be part of your decision to leave your current employer?



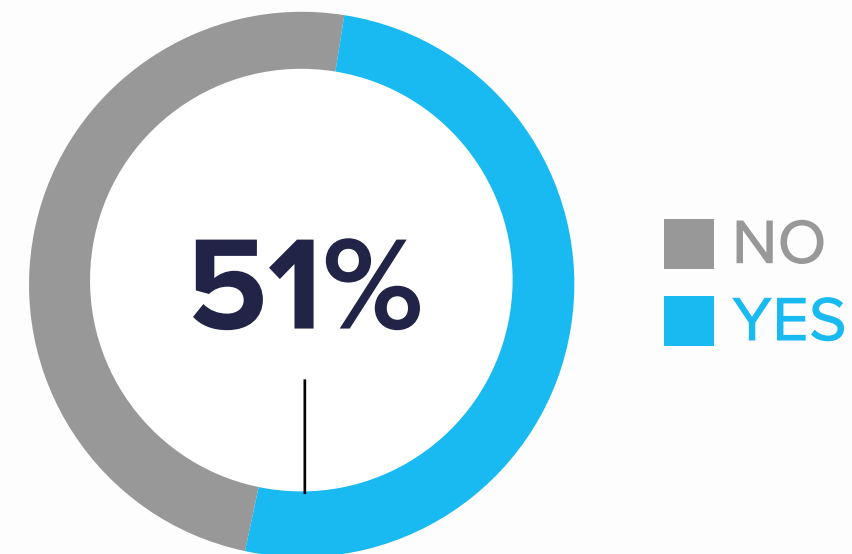
How long have you been at your current job? (Millennials and GenZ respondents)



Do you believe management listens to recommendations that employees make for improvements in your work environment?

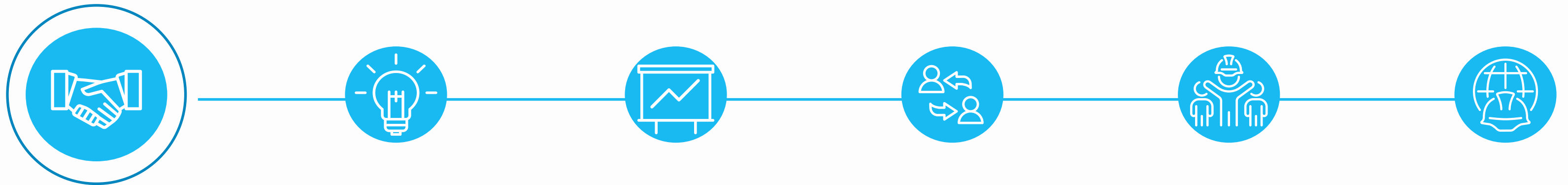


Has your employer given you digital tools (specifically software, applications, etc.) to help you stay safer at work?



A Practical Path to Improve Frontline Operations Starts with Technology

It's clear that frontline workers want and deserve digital technology that helps them perform their jobs better. However, digitization doesn't need to be a complicated process. The key to success is a plan that focuses on small, incremental improvements and showcases wins that are backed by data. Here's how:



1. Find advocates.

Success is more likely if you have buy-in from stakeholders within your plant or organization. Advocates can include your frontline teams, operations managers, and your EHS colleagues. They can help amplify the value of digitizing SOPs by increasing awareness and growing the enthusiasm around achievements for subsequent digital projects.

2. Start small.

Begin by identifying processes that would be the easiest to digitize and scale by replicating across different plants. Consider simple processes that are similarly carried out at multiple sites. Once you can capture data and trends that demonstrate success, you can make the case to digitize the process across the entire organization.



A Practical Path to Improve Frontline Operations Starts with Technology (cont.)

3. Set baseline metrics.

You don't want to initiate digitization only to realize you don't have a starting point to track results and prove value. Setting baseline metrics is key to measuring the impact of digital versus paper-based processes. Metrics could be as simple as tracking the time spent on a specific procedure, production output on a specific line, or the number of calls for assistance.

4. Regularly evaluate performance.

To measure the improvement that digital processes have on efficiency and productivity in your plant over time, regularly gather feedback from your frontline workers. The more visibility and data that can be analyzed, the easier and more accurate it will be to find the inefficiencies or bottlenecks, enabling you to continuously improve the process.

By digitizing its CIL procedure and measuring improvements with Connected Worker[®] from Parsable, a global brewery was able to:

- » Increase OEE by 5%
- » Reduce unplanned stoppages
- » Identify additional machine hot spots

NEXT STEPS

A Practical Path to Improve Frontline Operations Starts with Technology (cont.)

5. Celebrate champions and wins.

It's important to recognize your advocates and reward them for adopting and leading from the front. Recognition makes your employees feel valued as contributors and that the work they're doing is making a difference. According to a recent study by the Workforce Institute, Gen Z, particularly, is keen on receiving recognition from their managers. Recognizing everything from small achievements to big wins can make a huge impact on employee morale and help drive retention.

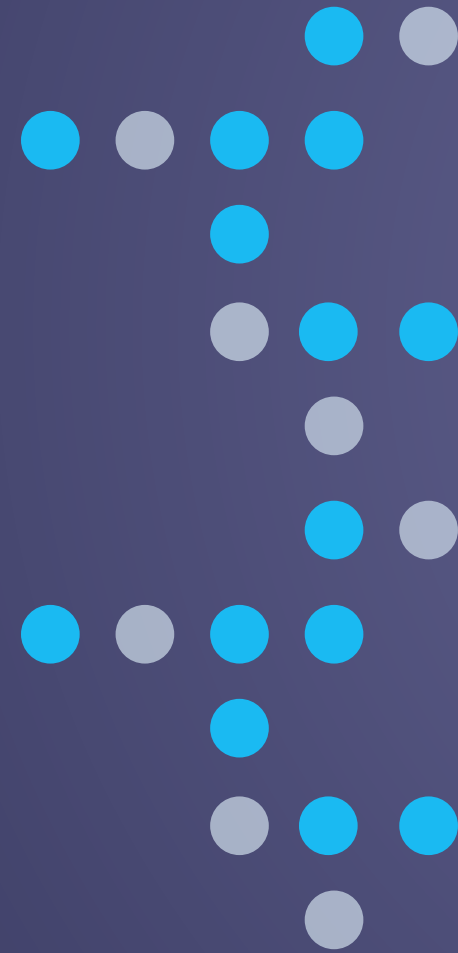
6. Have a plan to scale.

It's critical to measure and highlight the value of mobile-based software and digital tools for frontline workers early on, but also have a plan to roll out your program to additional sites and use cases. Bring in your software partner's customer success and implementation teams for support and direction. Reach out to your peers at other plants or factories and share your success and learnings. Your biggest impact might very well be how you help show others in your company or network the path to digitally empowered workforce.

The time to digitize is now.

Ready to empower your frontline with the tools and data they need to drive safety, productivity, and growth? Learn more about Connected Worker® and how it transforms static, paper-based procedures into a mobile and interactive platform.

[Take a Virtual Tour](#)



About Parsable

Parsable empowers industrial workers with modern digital tools to improve productivity, quality and safety. Connected Worker[®] by Parsable transforms static, paper-based procedures into mobile and interactive work instructions, enabling workers to leverage multimedia formats and collaborate in real time. With Parsable, companies gain unprecedented insight into human work by capturing essential data to improve their operations. A member of the World Economic Forum's Centre for the Fourth Industrial Revolution, Parsable is trusted by top global companies in the manufacturing, energy, consumer packaged goods, chemical, aerospace, industrial equipment, automotive and packaging industries. Learn more at parsable.com.

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