# How smart worker technology
## keeps your workforce safe

No matter how much your industry automates, the reality is that your workforce is critical. That has never been clearer than during the current labor shortage. The unique and ever-evolving pandemic landscape – and the reality that many retiring workers aren't being replaced in the labor pool – is keeping organizations everywhere seriously short-staffed, struggling to fill vacancies and anxiously on the edge. With businesses already patching together operations with skeletal crews, a single worker illness or injury could grind the business to a halt – and hence, ensuring workforce safety takes on a whole new level of urgency.

Moreover, in this seller's market for labor, going further to protect and support workers is proving to be the 'secret sauce' for companies that are successfully filling job vacancies. Workers are looking for more, not just in terms of wages, but also flexibility, skills and career development opportunities, and safety. That last factor is particularly critical in industries like manufacturing and construction, where jobs have traditionally involved greater safety risks.

Just as with and construction, where jobs have traditionally involved greater safety risks. Just as with front-line workers in other industries, the 'Great Reset' of the pandemic has workers in manufacturing and construction increasingly question whether these higher safety risks are worth it. This is one key reason that these industries have been significantly slower to bounce back to pre-pandemic employment levels — even when compared to other industries that are experiencing labor shortage like retail and hospitality.

According to a 2020 report from the Bureau of Labor Statistics (the most recent data available), construction workers reported 74,520 nonfatal injuries in the US in one calendar year, while manufacturing (across all sectors) accounted for 135,900.  Together, these industries account for nearly 18% of all reported nonfatal injuries. The reality is that completely eliminating workplace injuries is near-impossible in these high-risk fields – these aren't desk jobs, they're the people that physically make our world. But emerging technologies are paving the way to drastically improved workforce safety – and giving forward-thinking companies a major fillip in terms of recruiting and retaining workers.

**Here are just some of the ways that Smart Worker technology can be used to combat the typical issues that arise with workforce safety to prevent illnesses and injuries on the job.**

## Automating PPE monitoring

Colorful, illustrated and prominent signs can make it crystal clear – in as many languages as necessary – what protective equipment is required on a jobsite or the factory floor. But this can be difficult to enforce without employing a 'hall monitor' to enforce the rules and ensure that small slip-ups and minor negligence don't lead to big injuries.

Today, technology can fill that monitoring role. Picture a construction worker walking across a jobsite in proper protective equipment — but this worker is carrying a hard hat instead of wearing it. The **AI-powered Computer Vision platform from Mindtree NxT** can capture images from CCTV footage and determine – in real-time – if workers are properly outfitted. In this instance, the dashboard would create an alert that a violation was occurring, and the matter could be corrected before it became a larger safety incident. Taken across an entire workforce in just a year, these small interventions can dramatically reduce workplace safety risks.

## Visualizing a safer, more productive workforce

Another common cause of workplace injuries is workers entering areas they're not authorized for or taking on tasks without the proper training and certifications. Since many certifications require regular renewal, ensuring every worker is f ully qualified to work in a certain area or a specific part of the job can be an administrative headache. Even if the head of the team knows who's qualified for what, it's not immediately clear when a worker's certifications have lapsed – which would keep them from helping with a job.

With the **Worker Availability solution from Mindtree NxT**, RFID cards and corresponding readers can detect who enters a space when – and if they are authorized to be there. The system also records the time spent in a zone, so there's a detailed record of how long a worker was exposed to a potentially harmful gas, for instance. This not only improves safety but also productivity.

These smart, connected worker solutions are practical and valuable in a variety of industries, specifically those with a high degree of complexity. For example, manufacturers can use detailed data points of who is where (and when) on the factory floor to provide similar safety assurance. This powerful data stream can also give the leadership predictive and prescriptive analytics insights around productivity and factory output – so they can make confident, data-driven decisions that optimize staffing levels.

The best part is that these aren't theoretical solutions; some of the most successful and innovative companies in manufacturing and construction are already achieving results that are hard to ignore: **Digital safety interventions from Mindtree NxT** have resulted in a 30% reduction in near-misses and critical incidents, and a 35% improvement in worker availability. These kinds of figures translate into significant and measurable business value for any organization — and the benefits multiply at scale. Workers can feel confident accepting and continuing work with a company that prioritizes their safety — and the leadership can see monetary benefits from productivity improvements and reduced legal and short-term disability payments.

## Overtime (OT) can lead to injuries

With more companies short-staffed and patching together shifts with a shrinking payroll roster, extending shifts and adding overtime can seem like the only option. However, longer shifts lead to fatigued workers — and tired workers make mistakes. Countless studies have found that the risk for nonfatal injury goes up in the latter half of long shifts.

Fortunately, promising tech-based solutions help align the labor supply and demand, connecting workers, subcontractors, and project teams. For instance, **Mindtree's Worker App** can connect workers, subcontractors, and project teams – creating notifications for vacancies based on workers' location preferences and streamlining the process to fill shifts. Companies can fill gaps and cover shifts with available workers – and confidently embrace shorter shifts and less overtime that will have the add-on benefits of improving employee satisfaction and protecting worker safety.
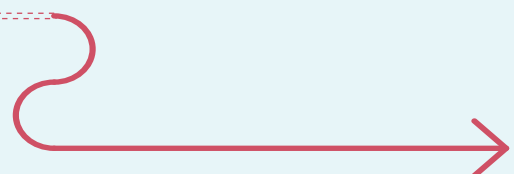
# COVID as a compounding factor

With the ongoing pandemic, even your most reliable workers are likely to call out at rates far exceeding their pre-pandemic norms. Quarantines, childcare availability, school closures, and workplace outbreaks can all bring your operations grinding to a halt at a moment's notice. Moreover, a single worker showing up sick could have a devastating domino effect, leading to a cascade of illness and absences that lasts for weeks. Manually monitoring workers' health is difficult and impractical for many reasons: it's costly, contentious and prone to subjective 'human error.' Simple technologies, however, can step in to help you mitigate these risks, protecting worker health and business operations in 'The next normal?.'

For example, while COVID symptom questionnaires can be easily ignored or falsified, a thermometer doesn't lie. More companies in sectors like manufacturing and construction are implementing simple health screening technologies as part of the same systems that verify worker credentials for safety and payroll purposes. These technologies also temper potential interpersonal staff conflicts by providing objective alerts when a worker records a temperature or symptoms that warrant taking time off to recover. Building automated health screenings when an employee clocks in can pay dividends towards protecting the health and productivity of your workforce in today's environment.

# Simplifying tasks while promoting safety

COVID also accelerated the shift to contactless methods for identification, payment and more. But contactless technologies aren't merely a public health measure — they're adding significant convenience, efficiency and security to everyday workflows. Imagine a future where workers clock in via facial recognition, not a pin code or card that can be shared or spoofed. Making sure that your business has accurate attendance data isn't just important for safety and emergency response — it's also a huge opportunity to reduce time fraud and ensure accurate overtime records.

With a solution like **Mindtree's Facial Recognition Attendance**, a worker is identified by analyzing against a pre-registered database. While this isn't new technology, it is significantly more secure than traditional methods. It also employs liveliness detection by requiring an eye blink, thereby making the technology difficult to spoof. And it's cloud-based (not deployed on-site), enabling access from any jobsite.

Beyond the safety and security benefits, moving to contactless workflows like this solution makes life easier for workers, too. Consider the convenience of not having to dig out an ID badge or remove work gloves to type in a pin code. Workers don't want to be burdened by what they may view as administrative babysitting – and with contactless methods, you can let them get to work without these hassles.

## Smart worker technology for a safer tomorrow

There's no magic bullet to solving the workforce shortage – there are far too many complexities for a single solution. Many companies, particularly those in higher-risk sectors like construction and manufacturing, are focusing on elevating workplace safety as a key differentiator. Traditional risk tolerances have been challenged in the pandemic era – and workers are looking for employers that go further to protect and support their health, safety and overall well-being.

A company's ability to attract and retain workers has become its biggest X factor. Mindtree NxT can help companies crack that code with a portfolio of IoT-enabled and AI-powered solutions that transform asset utilization, infrastructure management, locational intelligence, and workforce optimization. Early adopters will quickly build a competitive advantage in their market; those that don't will struggle to stay afloat.

As with so many other advances in the modern world of work, new technologies are emerging that give companies easy paths to make significant improvements to workplace safety and demonstrate their commitment to worker well-being. By employing smart technologies that are already widely available – like artificial intelligence (AI), machine learning (ML), facial recognition, Internet of Things (IoT) sensors, and more – manufacturing and construction leaders can transform the current labor shortage into a competitive opportunity and create a safer, more efficient workplace for tomorrow.
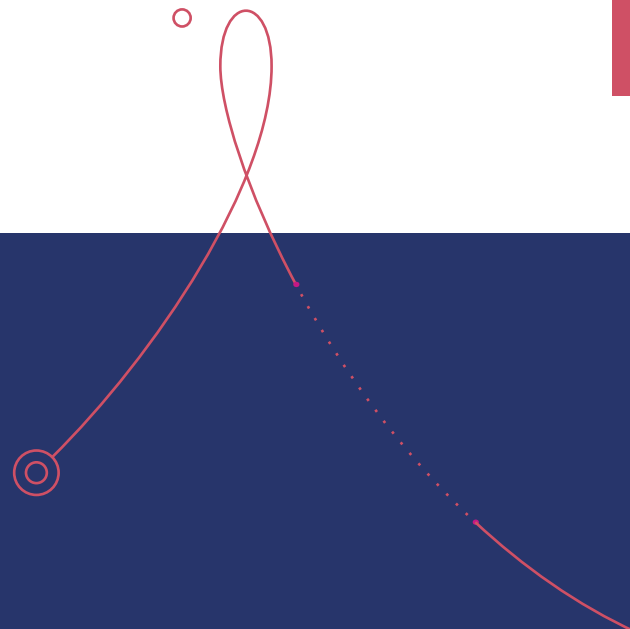
## About Mindtree

Mindtree [NSE: MINDTREE] is a global technology consulting and IT services company that enables enterprises across industries to drive superior competitive advantage, customer experiences and business outcomes by harnessing digital and cloud technologies. A digital transformation partner to more than 275 of the world's most pioneering enterprises, Mindtree brings extensive domain, technology and consulting expertise to help reimagine business models, accelerate innovation and maximize growth. As a socially and environmentally responsible business, Mindtree is focused on growth as well as sustainability in building long-term stakeholder value. Powered by more than 35,000 talented and entrepreneurial professionals across 24 countries, Mindtree — a Larsen & Toubro Group company — is consistently recognized among the best places to work.