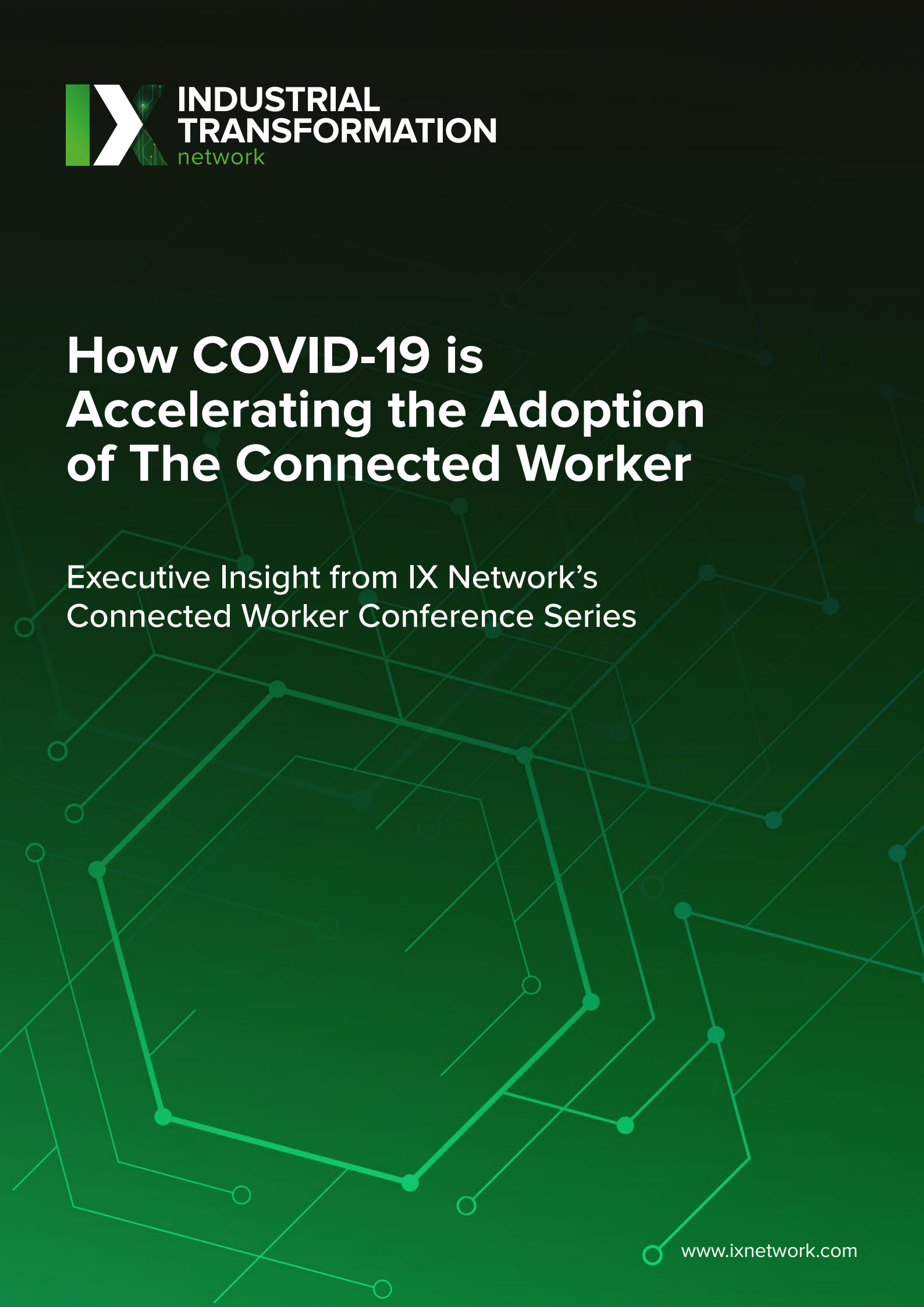
INDUSTRIAL TRANSFORMATION network

How COVID-19 is Accelerating the Adoption of The Connected Worker

Executive Insight from IX Network's Connected Worker Conference Series



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Even before COVID-19 sent most of the world's economies into lock down and forced business managers to pivot to new business operating models, digital technology was already transforming the way that frontline workers do their jobs. But the shock waves from the global pandemic sent the manufacturing and industrials sectors scrambling for new ways to keep their frontline workers safe - while at the same time ensuring business continuity and operational resilience.

Asset intensive businesses around the globe are working hard to keep critical operations going during Covid-19. Many of the critical work processes required to keep operations going at these companies require human operators to be on site interacting with machines and each other. Connected Worker technology is helping many companies maintain their critical operations right now –keeping workers safe while at the same time saving businesses time and money. Those that haven't digitized their frontline workers are struggling as they face the demand for social distancing and remote work brought on by COVID-19.

Global business leaders recently shared their experiences at IX Network's Connected Worker conference. Here's how Connected Worker Technology is reshaping today's business landscape and why COVID-19 has made such a big impact.

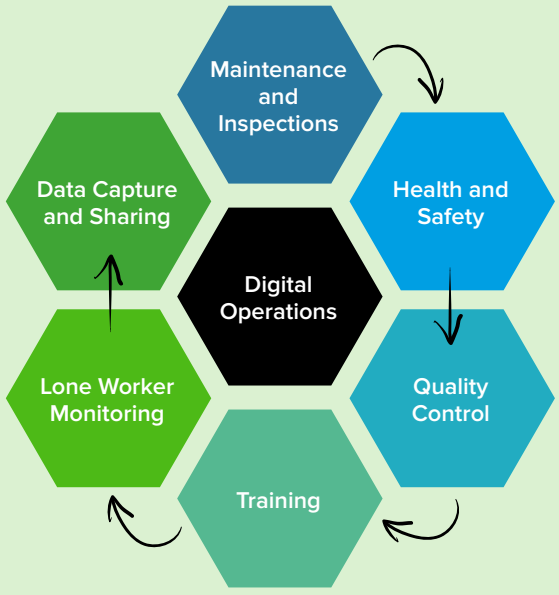


Figure 1: Top 6 Applications for Connected Worker Technology

Digitally enabled operations allows asset intensive industries such as industrials and manufacturing to better share data across sites, improve maintenance and inspection processes, enhance quality control, train staff and share knowledge remotely, and monitor remote workers in real time for enhanced health and safety.

"Prior to COVID we always found reasons to delay the implementation of things. [...] We started with 'we can't'. COVID forced at us to look at what we can do."

Edward Phagoo, Senior Manager - Information Technology, Enbridge

Connected Worker technology is a category of enterprise software that has been growing in importance as millennials – the demographic that grew up with digital technology - come of age and move into managerial positions within companies.

The category includes technology that enables workers to access the data and procedures they need while in the flow of work – such as frontline operators with app-enabled mobile devices or wearable devices that can monitor biological responses for improved safety for lone workers. Improved content and data management give frontline workers access to better, more relevant information that they need to do their jobs.

For instance, by "digitizing" operations for frontline workers, companies are able to capture new data that they might not have been able to before. That information can be used to better engage employees, improve efficiency and can also help to predict and prevent incidents. By better optimizing data and monitoring equipment and people in real time, asset intensive industries such as industrials and manufacturing can reduce downtime for machines and essential operations.

Technology is also opening up new frontiers for training as it enables companies to leverage the expertise of their most experienced staff, regardless of physical location. Simulation technology, for instance, lets employees practice their new skills in a realistic environment, thus improving knowledge retention and reducing the learning curve for new machines and processes.

"The next generation of our workforce has grown up with technology," explains Mark Hutcherson, Director of Operations Excellence at ConocoPhillips. "It's a given that - if we haven't already - we're going to have to incorporate these devices into almost every activity we do in the field."

Technology vendors in this space claim that successful deployment of Connected Worker Technology can increase business efficiency, improve employee morale and reduce turnover, and cut safety incidents. The potential for connected work is vast – any type of worker can be better supported by digital technology to enable faster, better actions and decision-making capabilities.

"If we're going to differentiate in our abilities, it's because of one person plus one person plus another person," observes Brent Kadzierski, Head of Manufacturing Learning Global Portfolios and Innovation, Shell. "It's not someone sitting at a desk in their own silo doing their own thing."

According to Polaris Market Research, the global Connected Worker market is expected to grow at a compound annual growth rate of 20.1% over the course of the next 6 years to reach USD 12.1 billion by 2027. LNS Research, another analyst firm, meanwhile found that nearly half of industrial companies are already using intelligent wearable technologies (e.g., smart glasses or sensor-equipped personal protective equipment) with an additional 21% planning to deploy these technologies within the year.

What Problem are you trying to solve / improve with Connected Worker technology

"What you have to relate to our frontline workers is going on as you develop the business case is really understand their pain points. [...] What decisions do they try to make day in and day out that they just have to make by gut? If you can incorporate that early on in your solutions - even if they're small wins - that momentum is going to grow."

Mark Hutcherson, Director of Operational Excellence, ConocoPhillips.

American aerospace manufacturer Lockheed Martin, for instance, has been using Augmented Reality glasses to help in product design for several years. Engineers can use the smart glasses to visualize the product from several angles in order to better identify potential design flaws. The company has also had success using smart glass technology to help employees carry out tasks through augmented reality, cutting down the time needed in the classroom to learn detailed procedures. According to VR Scout, an industry publication, the technology significantly improved retention rates of new knowledge and enabled faster and more accurate work.

Many industry pundits call the digital transformation that is reshaping workplaces the fourth industrial revolution or "Industry 4.0." Mobile devices are a key component to this switch as businesses seek to achieve the productivity gains, we've seen in our personal lives but have failed to implement for many frontline industrial workers.

At IX Network's Connected Worker Conference – held online in July 2020 – over 40% of attendees said their organization was looking to roll out connected mobile devices over the course of the year.

Improving access to digital procedures – such as giving employees access to detailed instructions on how to carry out a task - and enhancing field service operations – giving operators out in the field the ability to immediately input data or seamlessly carry out work digitally, for instance – were cited as the top two challenges that attendees were trying to solve through Connected Worker technology (See chart, below: "What Problem are you trying to Solve/Improve with Connected Worker Technology?") in the same IX Network survey.

While Connected Worker technology has been growing in importance, COVID-19 has been the catalyst to drive the rapid adoption of new, digital ways of working. Changes that would have taken years to roll out otherwise in digitally-tepid organizations had to be adopted in months. The safety of frontline workers was utmost importance while industrial and manufacturing companies tried to keep operations going through connected, remote work. Saving money and leveraging the Internet of Things (IoT) to improve efficiency were also aims, as the pandemic ravaged global profit margins.

"The pandemic has forced us to test and try new things, accelerating some of the concepts we've been wanting to prove up," says ConocoPhillip's Mark Hutcherson in an interview with IX Network. "It will also identify those roles that don't work as effectively away from the field and allow us to understand which roles are more critical to have on site and which can be done remotely."

If there's a silver lining in the events of the past year, it's that many of the innovations that companies have been forced to adopt will stick around because they simply make good business sense.

"Prior to COVID we always found reasons to delay the implementation of things. [...] We started with 'we can't'," observes Edward Phagoo, Manager - Information Technology at Enbridge. "COVID forced at us to look at what we can do."

During a panel discussion at The Connected Worker, Phagoo cites the example of site audits to ensure that plants and workers are operating efficiently.

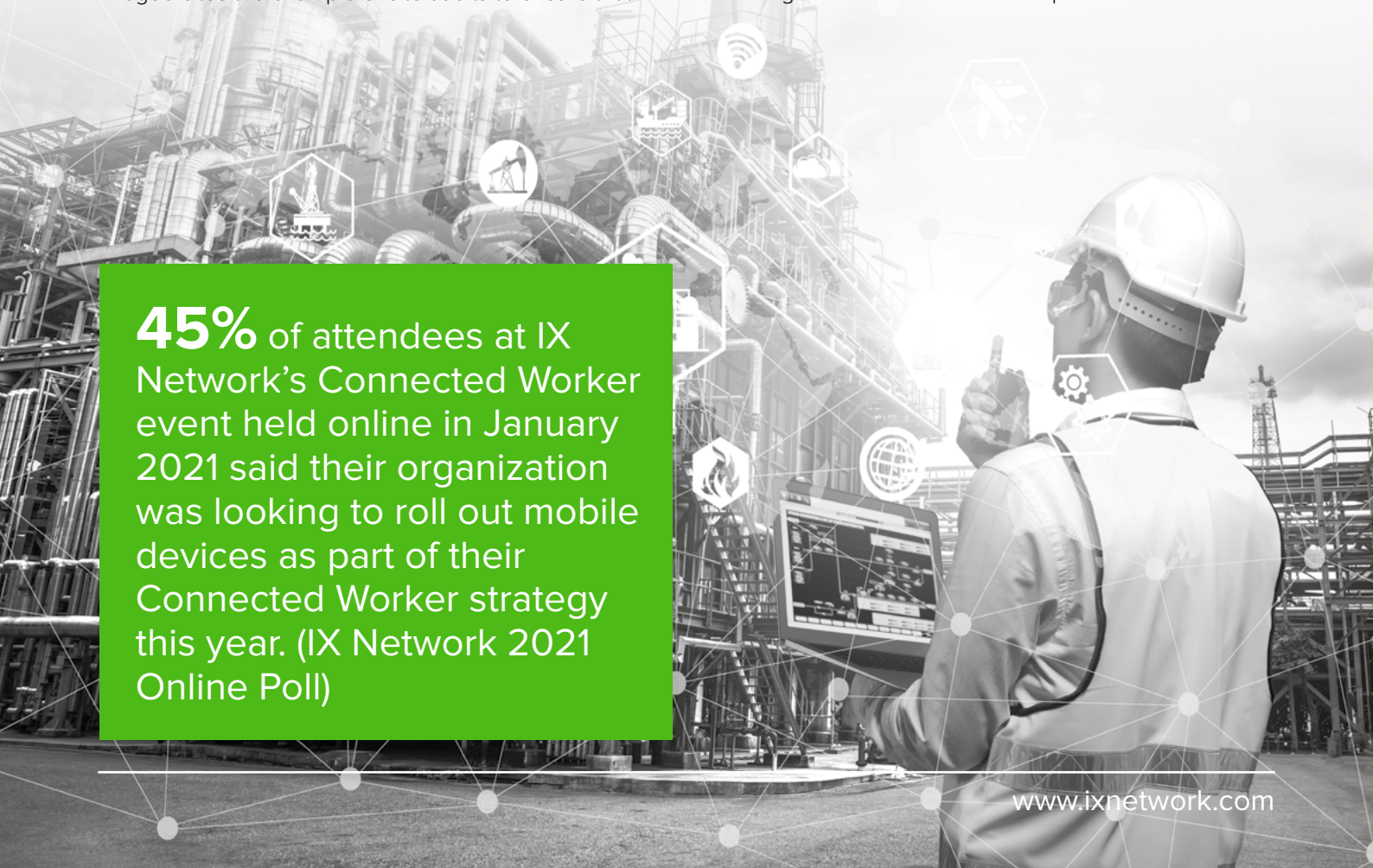
Traditionally, these audits needed to be done in person so that the auditor needs to observe work in order to ensure compliance to safety protocols. Covid-19 forced organizations to rethink business travel and in person interaction. Phagoo's company, Enbridge, found ways to make increasing use of cameras that were installed at operating sites for auditors to successfully watch and observe workers.

"What we found is that we've limited the need for an auditor to travel to ten different locations," he explains. *"They now have the ability to do multiple audits."*

That experience resonates at Chevron Canada, according to Troy Geertsen, Vice President, Health, Environment & Safety at the company. In the early days of the pandemic, he says, the energy company engaged its frontline workers to really understand what would make them safe. Based on that input, the company quickly developed a health screening app for its camp-based workers that enabled them to conduct a daily health check before getting to site. This ensured that sick employees would not turn up on site and it also eliminated the need for in person interaction and paper-based processing.

It took only three weeks to get the app up and running. *"That was unheard of in a corporation like Chevron Canada,"* says Geertsen.

Geertsen attributes the success of the program to really focusing on what the end user required.



45% of attendees at IX Network's Connected Worker event held online in January 2021 said their organization was looking to roll out mobile devices as part of their Connected Worker strategy this year. (IX Network 2021 Online Poll)

Shell's Brent Kadzierski agrees that end user engagement is critical to the success of any Connected Worker technology deployment. *"You can't start a project and hand it over to the worker when it's done. You've got to engage them at every step,"* he says.

Covid may have provided a burning platform for Connected Worker Technology to come to the forefront in industrial and manufacturing companies to enable business critical operations. But ongoing margin pressures, an aging workforce, and evolving technological capabilities means that the roll out of these technologies will differentiate the workplaces of tomorrow.

Business executives need to remember that technology is only a tool to solve existing business problems.

"Try not to be too focused on technology for technology's sake and look at what you're trying to achieve from a health and safety perspective, from an operational efficiency perspective and try to layer in some of those technological approaches," advises Aaron Davis, product marketing manager at technology vendor Intelex.

It's an approach that can yield success many projects fail at the final hurdle when they finally roll out to the people who are supposed to be using the technology.

"What you have to relate to our frontline workers is going on as you develop the business case is really understand their pain points," says ConocoPhillips's Mark Hutcherson. *"What decisions do they try to make day in and day out that they just have to make by gut? If you can incorporate that early on in your solutions even if they're small wins, that momentum is going to grow."*

"If the benefits are real and it's convincing enough, they're going to get on board," he adds.

Start small, be experimental, run proof of concepts and really evaluate those projects to make sure you're getting the business and operational benefits before you expand.