THE CONNECTED WORKER

The Connected Worker Playbook: Critical Success Factors to Drive Adoption in Oil and Gas

#ConnectedWorkerSummit

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Executive Summary

Oil and gas companies have been implementing Connected Worker solutions to better connect frontline workers to digital resources to drive efficiency, increase employee retention, and harness the knowledge of their most valuable resource: their people.

But, Connected Worker technology currently lacks standardized approaches in the field. Organizations must find their own way through the digital minefield. Excitement often turns to disillusionment if technology fails to live up to its expectations to make lasting, sustained change to frontline work.

So, how can oil and gas companies better harness the benefits of a Connected Worker program?

This industry report, produced in the lead up to Oil and Gas IQ's Connected Worker Summit, harnesses insight from speakers at our recent events and our advisory board of senior digital and transformation professionals to identify common sources of Connected Worker project failure and key factors that can help you pave the way to success.

Connected Worker Is As Much About Culture As It Is About Technology

Contributed by Grigor Bambekov, Senior Vice President, Excellence, Innovation, Digital and Business Transformation with Focus on People, Process, Technology and Information, Delek US Holdings

Advisory Board Member for The Connected Worker

For over 20 years, companies in the oil & gas industry have tried to achieve a better state of Operational Efficiency and Organizational Effectiveness through improved worker connectivity. It is believed that enhanced worker connectivity directly affects the bottom line and has positive impact on a company's Golden Triangle: Revenue, Risk, and Cost.

While this might be true for some other industries, the oil and gas industry is still far from achieving sustainable, measurable, and monetized impact from Connected Worker. Many companies invested hundreds of millions of dollars in various analogue and digital Connected Worker technologies.

True, some companies have achieved various stages of execution of Connected Worker technologies ranging from Proof of Concepts to full scale implementation.

But many companies experience the bitterness of short and long-term failures that account for 70% of unsuccessful digital transformation efforts.

Connected Worker became a mantra. And the mantra became a mirage... which at the end of day became dependent on people and behaviors.

Connected Worker technology cannot and should not be a substitute for broken organizational processes, absence of trust, fear of conflict, lack of commitment, avoidance of accountability, inattention to results, etc.

In the oil and gas industry, 80%+ of the Connected Worker efforts address the technical aspect of worker connectivity. In other words, it is more about implementation of technologies and claim of quick digital victories, rather than achieving a true worker connectivity, which can benefit the industry, the market, and society.

Organizations that fail to address People Connectivity will struggle in the space of Connected Worker and will not benefit from full ROIs in their Connected Worker journey. Success in Connected Worker is predicated on an organization's abilities, skills, and capability of Leadership and Management to establish favorable conditions for Connected People.

The following attributes of this process are:

- *Connected values,*
- *Connected behaviors,*
- *Connected desires, wants, and beliefs,*
- *Connected trust and relationships,*
- *Adherence to common vision, mission, strategy, direction – which connect people*
- *Connected priority, plans, tasks, times,*
- *Connected speed, accuracy, precision, completion,and finally:*
- *Connected respect, reward, and recognition.*

In conclusion, Root Cause Analysis of Connected Worker Failures identified that most of the companies in oil and gas are doing connectivity in pockets. Success is predicated on holistic, systemic, and systematic approach addressing not just connected worker but Connected Enterprise (CE), which encompasses Connected People, Processes, Technologies, Information, Decisions, Actions, Execution, and Results.

Root Causes of Connected Worker Failure

As oil and gas companies seek to harness the benefits from Connected Worker technology, it is critical to move beyond technology implementation to understand the drivers of organizational culture and behavior. Connected Worker requires a thoughtful approach to engagement and driving sustained change to process and behaviors.

Advisory Board Members for our Connected Worker Summit have identified three common causes of Connected Worker adoption failure:

#1: Approaching Connected Worker as an IT project

Connected Worker is not just an IT project. When done well, Connected Worker can drive powerful improvements in culture, skills transfer, and onboarding. But focusing purely on technology and technology implementation is setting the project up for failure.

"Our partner organizations tell us that software will not close gaps in leadership capability or culture, but it will expose it," says Tony Papke, Director of Business Development at MxD, a US digital manufacturing industry association. "The question is not 'what could we do' but 'what should we do'."

#2: Not addressing process and culture change

Connected Worker by its very nature requires changes to the way that people work. That means changing work processes and the organizational culture that surrounds it.

"Technology is not going to solve poor processes, poor team performance or anything like that. So, you really must get a handle on all these upstream elements, or you end up automating twenty-year-old poor processes or even worse," observes Al Lindseth, Principal, CI5O Advisory Services LLC.

He adds that resistance to change is a normal response that you must plan for.

"You're redefining all these boundaries that drive behavior," he says. "Those mental and physical spaces are where people find things like significance, security, control, relevance so they can manifest themselves. [...] When you threaten these boundaries, you get resistance from certain people."

You must identify those risks ahead of time so that you have mitigation plans in place.

#3: Not engaging frontline workers up front

While it seems common sense to involve end users when you're creating a solution for them, it is often not common practice. What can seem like a good idea in a corporate boardroom can fail to drive the necessary productivity and value improvement for the frontlines.

A solution must adequately address the needs of the people who will be using it – i.e., the workers – and noticeably improve their work. Otherwise, the tool will either be underutilized or scrapped altogether.

Worse, a solution that is imposed on workers can negatively impact morale, increasing employee turnover and decreasing productivity.

You want to make sure that you're not developing "a solution seeking a problem" says Mike MacFarlane, the Director of Digitalization of Production and Technology for North America at German chemicals manufacturer BASF.

Many of the cultural elements that need to be addressed can be more easily identified if you're engaging frontline workers right from the start of the process.

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"Start with the end user. Nobody knows better how your business runs than the people that are running the units in the field. That's where people are making the day-to-day decisions on your supply chain, where people are interfacing with your customers. They know what's most important. Don't design something to give to them. Design something with them."

Jason Gislason, Chief Digital Officer, Chevron Phillips Chemical Company

Four Factors to Achieve Connected Worker Success

#1: "Earn Credibility, Win Trust" Engage your end users

Engagement can take many forms: discussions, town hall forums, observation. The salient point is that you need to get into the minds and experiences of the end users to create a solution that benefits them.

Ultimately, you must spend "time with the people that are most going to be impacted to understand what their challenges and complaints are," says Brent Ruth, Lean Digital Transformation Leader at Caterpillar.

"I have seen instances where business leaders do not listen or incorporate feedback from key players which can cause frustration, disarray, and ultimately a decrease in profits and productivity," observes Sean Barnes, VP Corporate Operations at NineEnergy Services. "The team must understand the why. They must be included, and they must be heard."

Engagement doesn't simply come from a couple of conversations. There is a process of winning trust and establishing credibility that perhaps takes longer up front but can be so important to the overall success and adoption of the technology.

"We have found a lot of success when you go down to the foundational level of the people that are doing the jobs. Figure out where their pain points are and how this solution can benefit them," explains Chris MacAulay, Operational Excellence Senior Analyst, HollyFrontier. "Use their language, their terms, and the ways that they comprehend it. Then you get that buy in not just from the top down but also the bottom up."

MacAulay adds that his digital team, which is responsible for implementing Connected Worker, comes from a wide variety of work streams that supports the refining business, which adds to the credibility because they "know the language."

Caterpillar's Brent Ruth explains that even something as simple as letting users pick the color scheme has been helpful at his organization.

"All of a sudden, they felt they were part of that solution. They could see themselves in that solution," he says.

But earning the trust and credibility of workers starts even before embarking on a Connected Worker journey. It is demonstrated in the day-to-day interactions that workers have with technology teams and must be built up over time.

"We must prove that we want to help them, that we know what we're doing, and we understand the historical issues that they might be frustrated with," explains Patrick Short, Digital Manager, Smart Factory, from Mitsubishi Chemical Corporation.

CASE STUDY: Connecting Workers at Mitsubishi Chemical Corporation

Mitsubishi Chemicals UK develops a range of chemicals and compounds at 5 separates sites spread across the country. The company's team has been implementing a Connected Worker strategy to better link frontline workers to the information and resources they need to do their jobs effectively. They've found success by taking a "people first" approach to Connected Worker technology.

"Whenever we kick off a project within Connected Worker, we carry out a phase of discovery where we spend time engaging with the end users and other key stakeholders within that process or that team. We learn about their challenges, their needs, and what their goals are," explains Anna Bainbridge, Digital Manager, People Engagement at Mitsubishi Chemicals.

The company starts by gathering feedback directly from users and any other available data. The digital team uses an agile project management framework and ensures that the end user is involved at each stage of project delivery. By the time that an app is rolled out, users are already familiar with the technology, have had an opportunity to provide feedback, and are generally excited about the technology's benefits.

The company has also done extensive research on "personas" to better understand the common personalities and perspectives that they may encounter at a facility when launching Connected Worker.

"We know the people, we know the profiles, we know the demographics, and we know some of the challenges that we're likely to face. That lets us go into a room with people and be able to predict what to expect," explains Patrick Short, Digital Manager, Smart Factory, from Mitsubishi Chemicals.

Read the full interview on Oil and Gas IQ.

#2: Find your champions

Some people within your organization will more readily see the benefits and have sway within their peer group to drive adoption. The key is to identify those people early and win them over. "I like to partner with the more progressive and forward-thinking executives first, since they are more inclined to adopt technology at a more rapid rate," says NineEnergy Service's Barnes.

"Not all business leaders are ready for change, and some are more inclined to sit back until they have seen proven results. An example of demonstrating results would be during executive strategy sessions when those who have adopted new technology are able to share in-depth analytics and dashboards that tell a story of how the business is achieving success," he explains.

"When this occurs, those that have not been as focused on adoption of technology and process improvement will want to get onboard. This creates an environment where the business is 'pulling' the technology instead of IT pushing on them," he adds.

That's something that resonates with Chevron Phillips Chemical Company's Chief Digital Officer, Jason Gislason. It requires ensuring that any solution relentlessly delivers ROI.

"When you go out there and put something in that generates a lot of value and directly impacts the business of that business leader that's when they go from your skeptic to your biggest supporter," he says.

The same principles apply in an office environment at a managerial level as they do in frontline oil and gas environments such as offshore or in refineries.

"Find the people that others look up to can convert them," says HollyFrontier's Chris MacAulay. "We create champions at the sites and those champions then are invested in the system; they are owning that solution at that site."

#3: Allow time and space for your people to adopt the technology

Learning a new digital tool can be perceived as yet another thing that your frontline workers must fit into their day. They are focussed on delivering the daily operations of your business – whether that's pulling oil out of the ground or maintaining the valves on the well heads. You must ensure that your people have the time and space they need to learn the new ways of working.

"We focus on how we can help them be successful with the headcount they have, the resources that they have without burdening them with new stuff," says HollyFrontier's MacAulay. "At the forefront of our thinking when we're identifying these solutions and thinking about strategy is how do we get everybody on board and how can we make it so the site will take it and run with it?"

Connected Worker Advisory Board member Jan Shumate, Director, Worldwide Engineering & Construction Solutions / Corp MFG Automation Transformation, Eastman Chemical says that it is critical to understand and quickly comprehend the different levels of competency and capability that exists within your organization. She explains that this allows you to find your superusers and then right size your training and support for other workers.

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"Connected digital worker means different things to different people. Our MxD partner organizations say that it's critical to be able to articulate the day-in-the-life story of key end user personas and how they will drive organizational alignment to the mission, priorities, and technology choices. A successful program requires full participation from IT, OT, and operations. Joint governance needs to drive alignment and enable relentless focus on execution."

Tony Papke, Director of Business Development MxD

#4: Clarify your technology objectives

Feedback from MxD partner organizations is that technology can complicate instead of simplify work, observes Tony Papke, Director of Business Development at MxD a digital manufacturing innovation center.

He says that partner organizations have found that without proper clarity on a functional or reference architecture you risk duplicating "capability which already exists or should exist in another system."

Further, he adds, "redundant data entry, inefficient interfaces, multiple systems to manage with siloed information," can all introduce inefficiency, according to MxD partner organizations.

It is, therefore, critical to clarify how the technology will fit into your existing infrastructure.

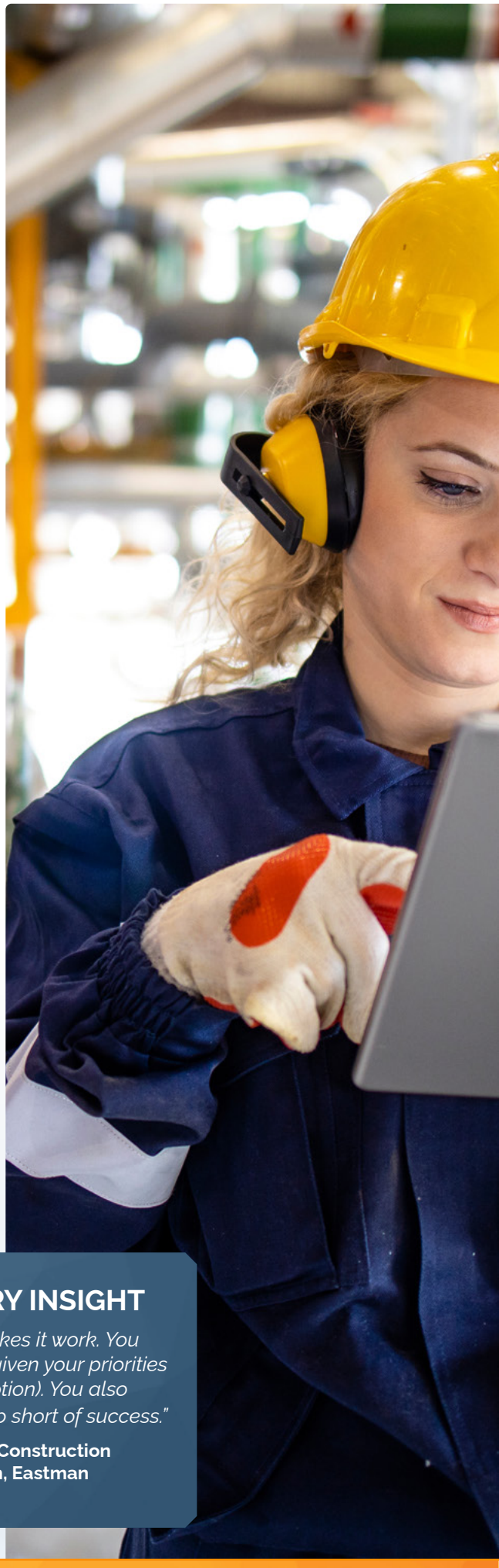
Further, Constantyn Chalistios, Chief Digital Officer at Westlake Chemical and advisory board member for The Connected Worker Summit, suggests three other activities you should undertake before committing to a particular technology:

- Defining clear benefits for a Connected Worker platform
- Rigorous cataloging of field worker activities that can be made electronically (instead of picking one and putting in place a solution that cannot be scaled)
- Understanding the physical environment of the field worker before committing to certain hardware

Connected Worker technology holds great promise for the Oil and Gas industry, but it is critical to define the technological requirements based on end user needs and the environment in which the technology must operate.

"There is no unicorn system or software that makes it work. You must make the best decision for your situation given your priorities (in our case that was ease of use and user adoption)," says Eastman Chemical Company's Jan Shumate.

The rewards are great for those companies that can make the leap to connect workers to digital resources to achieve powerful business results.



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"There is no unicorn system or software that makes it work. You must make the best decision for your situation given your priorities (in our case that was ease of use and user adoption). You also must have an unrelenting team that will not stop short of success."

Jan Shumate, Director, Worldwide Engineering & Construction Solutions / Corp MFG Automation Transformation, Eastman Chemical

Conclusion

Oil and Gas companies are turning to Connected Worker technology to improve productivity, increase efficiency, expand access to digital work procedures, and enhance safety. But approaching Connected Worker as a technology project solely can set the implementation up for failure. Oil and Gas companies must approach Connected Worker holistically with a focus on technology, people, process and change management at the core.

By focusing on engaging frontline workers and solving their problems, building trust, and identifying champions, companies can create the space for employees to learn and assimilate Connected Worker technology as part of their daily processes and work.

Connected Worker is not a technology, it is a new way of working. As such, it requires new behaviors and new understanding. Those companies that understand that Connected Worker requires culture change as much as it requires technology implementation will be well positioned to reap the benefits.