



5 FORCES DRIVING THE RISE OF **CONNECTED WORKER** **APPLICATIONS** IN OPERATIONAL TECHNOLOGY

EXECUTIVE BRIEF

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According to Gartner, operational technology (OT) is hardware and software that detects or causes a change through the direct monitoring and/or control of physical devices, processes, and events in the enterprise.

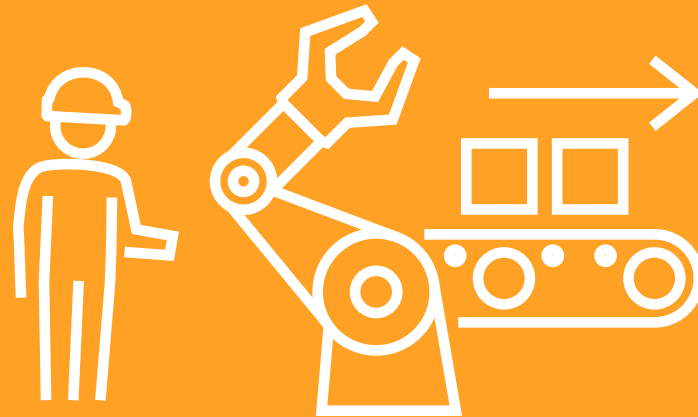
When you think about most factories, they traditionally didn't have much OT. The shop floor was largely mechanical, save for the SAP terminal in the corner. Today, mobile enterprise-class software is finding its way onto the shop floor, along with advances in automation, robotics, integration, business intelligence, and artificial intelligence.

Let's add a bit more context. Remember the day you got your first laptop? For some of us, it might have been a 286 Toshiba with a 2400 baud acoustic coupler strapped to a phone receiver that *sometimes* connected to a private network, after several minutes of trying. At the time, nearly three decades ago, it probably

didn't do much, but it made us feel like our companies were investing in us and trusted us. We were doing something special.

This is what is now happening with mobile devices and industrial workers in factories, although the modern smartphone is more powerful than the output of hundreds of that first laptop. Additionally, the price points of devices and the cost of kitting out a factory with wi-fi have come down to a point where it's starting to make sense to give every worker a tablet or smartphone, with applications connected to the cloud (i.e., connected worker applications). These dynamics are coming together to not only usher in an entirely new way of executing work, but help solve the industrial labor crisis as well.

Here are five forces driving the rise of connected worker applications in operational technology.



1. CLEAR PATTERNS FOR HUMAN AND MACHINE EXECUTION

1. Clear Patterns for Human and Machine Execution

While it is true that no two factory floors are the same, there are clear patterns by sub-vertical. If you make shampoo, for example, there is a machine that makes bottles. There is a labeler. There is a printer. There is a mixer, a filler, a capper, and a boxer. These machines might be built by different companies, or have different sensors, or even different language protocols for communicating information. But their components are very similar.

It makes sense, then, to rise above the machine type and define patterns for human-led work like changeovers, maintenance routines, and even safety checks. The ideal connected worker application would codify what humans do with machines to create an outcome. At implementation, these applications then get wired to the sources of information that are vital to making the processes transparent, measurable, and continuously better every day.



2. SKU EXPLOSION

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For most manufacturers, the pressure is on to diversify their offerings to simply maintain market share. As an example, Coors in Golden, Colo., has a three-block-long factory that traditionally produced only Coors and Coors Light beer. The challenge for them, and for most businesses, is that millennials grew up in a world of nearly ubiquitous choice. As a result, the market share of traditional beer brands has been shrinking steadily for almost a decade, forcing the company to diversify its offerings; for example, Coors now has an horchata-flavored beer under its ever-expanding Blue Moon label.





3. THE "BOWTIE" WORKFORCE

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Adding to this, most traditional manufacturers have what might be considered a “bowtie” workforce. On one side, you have very experienced employees who have worked for the company a long time. (The average age of the industrial worker as of 2017 was 58 years old.) Therein lies the challenge. If these workers are asked to do something physically demanding, even if they are of “average age,” they are beginning to age out of the workforce.

Then there’s the middle of the bowtie. Manufacturing became uncool in the 1990s and 2000s, as the dominant thinking was that Western democracies would design products that others would assemble. The assembly of goods was inexplicably seen as less valuable, despite the clear economic understanding of the job ripple effect of a single manufacturing job. Western democracies decided that they would instead “go long” on financial arbitrage and service jobs.

Now it’s clear that there is no ripple effect to service jobs, other than even lower-end service work. As a result, you have the other side of the bowtie, where manufacturing jobs now are experiencing a real boost; job openings have been growing at double-digit rates since mid-2017, according to Deloitte. Advances in automation, which allow for the reshoring of work with less labor cost, make this jobs revitalization even more pronounced.

More than half of the open jobs in 2028 (2.4 million) could remain unfilled because of the following top reasons identified by executives:

- Shifting skill sets due to the introduction of advanced technologies
- Misperception of manufacturing jobs
- Retirement of baby boomers

— Craig Giffi et al., 2018
Deloitte skills gap and future of work in manufacturing study, Deloitte Insights, November 2018



4. THE CONSUMERIZATION OF APPS IN INDUSTRIAL WORK

4. The Consumerization of Apps in Industrial Work

As more of this work comes home, more people are doing something they have never done before in a completely new way. The rise of connected worker applications aligns with the rise of OT that is required to move so fast for the changing manufacturing reality that it can no longer be run by IT. The app approach just makes sense now as millennials, raised on a steady diet of apps, want to leverage the same technology they use all day in their personal lives at work.

Additionally, companies don't have the time or patience for long or custom implementations. This is exacerbated by the tension that exists as OT rises and separates from IT. Inside the boardrooms of manufacturers, no one wants to see this fight play out. They just want solutions that work and can be implemented quickly.



5. COMPELLING CONTENT IS BEST CAPTURED IN AN APPLICATION

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The final reason apps make sense for industry is that when software companies work with thought leaders to assemble the intellectual property to build an app, there is a recognition that they have thoroughly studied the business problem, gotten closer to the customer's true pain, and are implicitly committing that this pain can be addressed quickly.

At Parsable, we provide our customers with a Connected Worker Platform. We have now begun to build Connected Worker Accelerators with some of the foremost industrial leaders to provide exacting recipes for what we call quantum industrial improvement. Our first set of Connected Worker Accelerators combines the human drivers of Overall Equipment Effectiveness (OEE) together in what we call OEE 2.0.

For more information or a demo on how Parsable can help you combine the human drivers of OEE to achieve OEE 2.0, contact us at 1-888-681-2119 or www.parsable.com/contact.

About Parsable

Parsable (<http://www.parsable.com>) helps the world's largest industrial firms get jobs done right – every time. Parsable provides a Connected Worker platform so employees can collaboratively execute their work using paperless, modern, and digital work instructions on modern mobile devices. In addition to measuring every step and action, employees can raise issues and provide feedback so that every process is quickly analyzed and improved. With Parsable, teams of Connected Workers know what they need to do and how to do it.

Parsable's customers include Corteva, Green Chef, Procter & Gamble, Schlumberger, Scientific Drilling, Shell, Silgan, Zume, and other category leaders in energy, industrial manufacturing, and consumer packaged goods. Founded by veterans of Accenture, Google, Microsoft, SAP, Oracle, and YouTube, Parsable is headquartered in San Francisco with offices in Austin, New York, Vancouver, Canada, and Dublin, Ireland.

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