



**Quality
Remastered**

*Insights to
help you thrive in
the Digital Era*

The Human Side of Automation: Putting People at the Center of Process Automation

Digitize. Modernize. Elevate.

Automation is not a four-letter word and it's not something to curse.

Automation is, in fact, a 10-letter word that has been at the forefront of progress for more than a century. Progress that's also been defined by tension and uncertainty. History is full of fears of technology taking over people's livelihoods. From protests in the 1800s against mechanical looms to fears in the 1990s that the internet would lead to a world without work.

**Today, headline
after headline
declares the latest
stats proving
(or disproving)
how robots and
automation are
taking jobs away.**

But what makes today's headlines different? Unlike past waves that disproportionately impacted manual laborers, the next wave of automation is shaping up to be even more intelligent. And as a result, knowledge workers are taking notice.

It is true, technology-driven change is disruptive. Past industrialization triggered shifts from agrarian to manufacturing economies. Telephone switchboard operators vanished but were replaced by millions of jobs in telecommunications and then high-tech industries. And as the introduction of lean manufacturing and robotics have streamlined the factory floor, we continue to see dramatic improvements to the quality and reliability of billions of products.

New waves of advancement,

like Industry 4.0 applications and the wider adoption of intelligent automation – from the top floor to the shop floor – will inevitably create yet another cycle of disruption. And while fear and anxiety are a natural part of change, ultimately we must maintain a focus on how new technologies elevate people’s capabilities, create greater opportunities and improve quality.

According to Dr. Irving Wladawsky-Berger,

“Just because some of the activities in a job have been automated, does not imply that the whole job has disappeared. To the contrary, automating parts of a job will often increase the productivity and quality of workers by complementing their skills with machines and computers, as well as enabling them to focus on those aspects of the job that most need their attention.”

Artificial Intelligence Will Replace Tasks, Not Jobs,
Forbes [↗](#)

Why is this so critical today?

Especially, for professionals in highly-regulated industries, such as life sciences? Sustaining a competitive advantage goes beyond simply modernizing technologies and lean processes. It's about empowering people to leverage automation and real-time insights to work smarter and adapt faster to changing regulatory conditions. And, it's about ensuring that innovative, high-quality products make it to market faster and more affordably.

As digital technology continues to drive the next wave of transformation across all industries and aspects of work – from pharmaceuticals to heavy machinery – it's important to explore the fear versus the reality that these technologies provide. Just as quality and productivity should always be in sync, so too can automation and improved human capacity.

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Automation With a Human Focus.

When Henry Ford introduced mass production on the assembly line, the standardized continuous flow process was created. Quality and efficiencies improved by eliminating errors and reducing variability throughout the process.

But in meeting the ever-expanding production demands for his Model T, he saw firsthand the effects automation without a human focus could cause. As conditions in the plants worsened, labor turnover skyrocketed. Ford course corrected by putting in place benefits to keep workers engaged. He doubled their wage to \$5 a day, reduced the work day to eight hours, and went from two to three daily shifts.

Fast forward to 1948 and into today, Toyota's Production System (TPS) created a people-oriented system that respected that fact that it was people who operated the system. Starting with the principle of Just-In-Time (JIT) manufacturing that efficiently produced high-quality products in large volumes, TPS took quality control to a new level. With *Jidoka*, or the human element (autonomation), the tasks that operators find boring, repetitive or unsafe get automated, but humans remain involved monitoring for defects highlighted by the machines.

Today,

robots have revolutionized automotive and many other manufacturing facilities and, yes, they have reduced the number of people involved in the process. But humans remain an integral part of the process, specifically because of their ‘humanness.’

A recent NPR article featuring a Volvo plant in Ridgeville, S.C., has a highly automated process at the beginning of the line, but the end is staffed by people. Why? Nothing can replace the human touch in terms of quality control or human intelligence in finding creative solutions to repetitive problems.

“Humans have strengths, compared with robots, in all sorts of workplaces — not just auto plants. And in general, people and robots work best together, with robots handling dangerous, monotonous jobs and precision work, while people handle tactile work, switch between tasks, make decisions — and come up with creative ideas for improving things. That means the best thing robots can do for manufacturing is not replace people — but free them up to work like, well, people.”

Even in the Robot Age, Manufacturers Need the Human Touch, NPR [↗](#)

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Eliminating Human Errors, Not Humans.

Fears of automation have always centered on machines replacing physical labor in task-based, manual environments, mostly blue-collar occupations.

However, this latest wave of advancement is feeling more threatening to knowledge workers who previously felt safe. At all levels, automation has become part of the conversation. Lawyers, accountants, analysts, doctors and quality professionals at all levels are starting to question the role intelligent automation will play in replacing their work.

The reality holds that process automation is not about human versus machine. It's about people and process optimization to increase efficiencies

and decrease the chance of human error. This frees up people to leverage their intuition, experience and insight. There is always a level of reduction in specific roles, but typically there is an equal or greater increase in new roles.

Think of it this way: Automation releases humans from the need to perform specific, repetitive tasks. By automating repetitive tasks, work becomes more human, not less, and leads the way to enhancing human performance.

Quality and compliance represent a great use case to explore as their function connects to every aspect of the business. Leveraging technology for better outcomes by empowering these professionals lets them focus on what they do best: protect patients and consumers.

“I'd like to turn your attention to a different type of automation, one that's showing tremendous potential as an enhancement to human efforts rather than a replacement. It's being developed using disciplines acquired on the factory floor and applying them to an entirely different field: process automation and cognitive computing. Imagine if you could release 25 percent of your [staffs'] time from the burden of repetitive tasks. Doing so lets your team devote their talent toward efforts that can transform your operations and improve competitive performance.”

IBM Services Blog [↗](#)

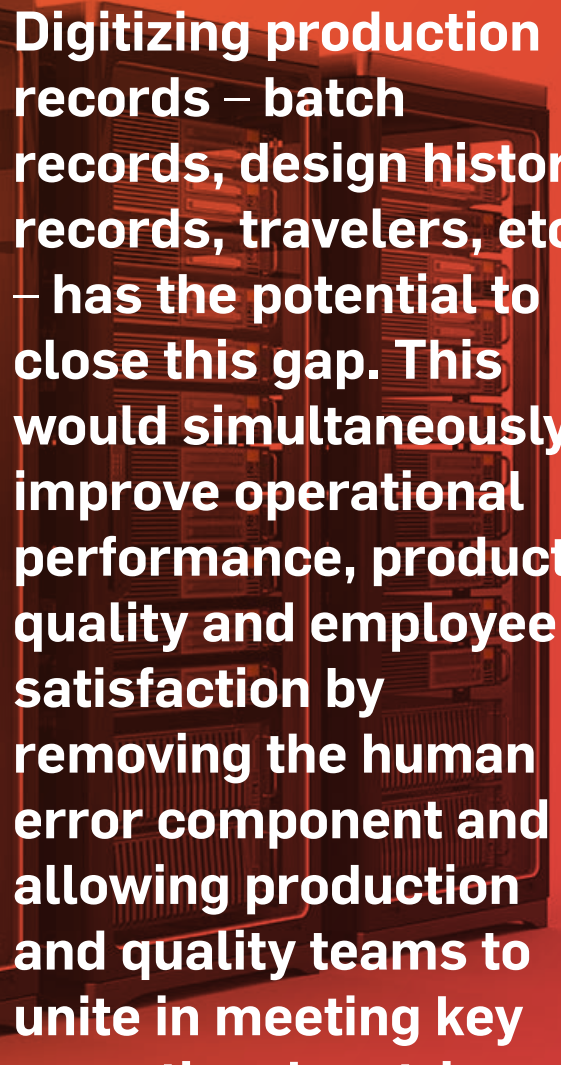
3

Bridging Divides With Digital Process Automation.

Within life sciences, many manufacturers are ramping up digitization and IT modernization initiatives.

And while many of these initiatives initially focused on the R&D pipeline – new applications of advanced analytics, artificial intelligence and intelligent automation are increasingly being applied to quality and compliance process automation – including prioritization of fully paperless and automated production records.

Tensions between manufacturing operations – which have continuously been held to higher productivity and efficiency standards – and quality and compliance functions that often ‘slow’ things down are widespread. Part of this tension is the result of a digital gap between the level of digitization through industrial automation and SCADA (Supervisory Control and Data Acquisition), ERP (Enterprise Resource Planning), MES (Manufacturing Execution System) and quality assurance programs that still rely heavily on paper-based production records and manual review and release processes.




Digitizing production records – batch records, design history records, travelers, etc. – has the potential to close this gap. This would simultaneously improve operational performance, product quality and employee satisfaction by removing the human error component and allowing production and quality teams to unite in meeting key operational metrics.

“Managers often overlook the full cost of incomplete automation. For example, they don’t account for the lengthy internal back-and-forth discussions on how to handle a particular exception. These can involve senior people “rediscovering” how to approach the task, trial and error in working through legacy systems, projects bouncing between teams who are unaccustomed to handling lower-volume activities, the risk and cost of fixing errors, and the investment in maintaining incomplete, outdated, and potentially unused training, compliance, and reporting materials.”

Technology + Operations: A Flywheel for Performance Improvement, McKinsey & Co. [↗](#)

When the chance for
human error
is taken out of the equation,

deviations and waste get reduced and right-first-time metrics are improved. With automation, paperless equals errorless and the time people spend correcting data input errors or hunting for documents can be refocused on higher-value tasks. Or, more plainly: it takes away many of the tasks people don't like, creating opportunities for more meaningful work.

A person wearing a white protective suit and mask is working on a circuit board in a cleanroom environment. The background shows industrial equipment and a grid pattern. The entire image has a red overlay.

“Digitization and automation will also ensure better quality and compliance by reducing manual errors and variability, as well as allowing faster and effective resolution of problems. Use cases have demonstrated more than 65 percent reduction in deviations and over 90 percent faster closure times. Prevention of major compliance issues can itself be worth millions in cost savings.”

Digitization, Automation, and Online Testing,
McKinsey & Company [🔗](#)

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Amplifying the Intelligence of Knowledge Workers.

As robotic process automation (RPA) gets infused with AI this debate will continue and intensify.

Using RPA tools, companies will be able to configure “robots” to capture applications for handling data, administering transactions, triggering responses and communicating with other digital systems and with customers. In addition, the growth of low-to-no-code platforms is making it easier than ever for non-IT professionals to easily automate more front and back office tasks. In the not-so-distant future, these technologies will replace humans at all levels in an organization.

But what happens when AI replaces strategic judgement, empathy and experience or exemplifies the worst of humanity? Or will the implementation of what appear to be simple applications – many of which are no-or-low code – cause additional issues?

Let's look at an extreme case of AI-powered chatbots without human oversight.

In March 2016, Microsoft launched an AI-powered bot, Tay. Featured with a picture of a teenage girl, Tay was soon influenced by internet trolls and within 24 hours was on social media spouting misogynistic, racist statements. Other examples include rogue chatbots that are intentionally programmed by cybercriminals to steal account or credit card information or the bots that are used to fuel political feuds. These are the extreme.

More common is the frustration people feel when basic human interactions via customer service gets outsourced to technology. Bots get easily confused and can create bad experiences that destroy brands.

Obviously, it's not all bad, and deployed properly, RPA and AI are creating incredible efficiencies and savings for business. But like all technologies, they require a strategy, clear governance and prioritization. And in highly regulated industries, such as life sciences, it's humans who provide this much-needed oversight.

“The debate between artificial intelligence (machines replace us) vs. intelligence augmentation (machines help us) has been raging for decades. One side wants to engineer humans out of the equation, while the other thinks the role of machines is to help people perform better. But that debate misses the point. The two ideas aren't mutually exclusive. It's true that AI can do certain things far better than humans... But it's also true that when AI starts doing those things, it'll make us better at our jobs, and better at being human.”

Automation May Take Our Jobs but Restore Our Humanity [↗](#)

We Control the Future of Automation.

The sophistication of the automation rolling out today is more intelligent – with the capacity to be even more autonomous – than anything we’ve experienced to date. It’s a level of automation that touches everyone.

“A vast majority of organizations told us they expect to increase or significantly increase their use of AI, cognitive technologies, robotic process automation, and robotics over the next three years. As organizations adopt these technologies, they’re finding that virtually every job must change. Paradoxically, to be able to take full advantage of technology, organizations must redesign jobs to focus on finding the human dimension of work. This will create new roles that we call “superjobs”: jobs that combine parts of different traditional jobs into integrated roles that leverage the significant productivity and efficiency gains that can arise when people work with technology.”

Leading the Social Enterprise 

In fearing automation and AI's negative impacts, a powerful truth has been lost. We are the ones who create and implement technology. It's up to each of us to ensure it augments our best capabilities, not our worst. That's when the technology we deploy creates a brighter future for us all.

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At MasterControl, we're passionate about quality. Our Quality Remastered series has been designed to help quality-centric professionals *remaster* their quality and compliance processes for the digital era. Each installment provides insights, strategies and best practices to help you implement the digital elements needed today to thrive tomorrow.

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