Powering human impact with technology
Technology contributes to making work better for humans and humans better at work™
Coauthored by Martin Kamen, Tara Mahoutchian, and Nate Paynter.

New workplace technologies are emerging that don’t just augment human workers but actually help them improve their own personal and teaming capabilities—helping humans become better humans and teams become better teams. This is more than just wearables. It’s technology supporting humans in countless ways to foster new behaviors and help workers become better versions of themselves.

The relationship between intelligent technology and workers has evolved significantly over time. At first, technology was used as a substitute for workers, automating them out of tasks that were dull, dirty, dangerous, or disconnected. Next, it was used to augment workers, functioning alongside them as a tool that provided additional or enhanced capabilities and insights. We referenced these trends in previous reports as superjobs and superteams, which have continued to accelerate thanks to how technologies are advancing. Now, we’re seeing technologies emerge that aren’t just a substitute or supplement for workers but actually help them improve who they are—enabling humans to become better humans and teams to become better teams.

For example, Gogi Anand from LinkedIn shared, “The whole employee experience is about to be turned upside down by technology, and it’s going...”
to be very beneficial for people. For example, when I do presentations, I get prompts from Speaker Coach within Microsoft Teams, and it tells me how quickly I’m speaking, or if I’m dominating a meeting. It gives me instant feedback that helps me become a better presenter. When I look in my recognition platform, AI nudges me to be more inclusive in my language. This type of technology will be really helpful for both information workers and frontline workers.”

Leveraging principles from psychology, anthropology, sociology, and behavioral science, these innovative technologies are reshaping the boundaries of how we define and improve human, team, and organizational performance. Intelligent devices powered by AI, in particular, are providing an ever-growing volume of performance-related information to enhance human impact at work. In fact, some studies estimate that AI and machine learning will contribute to a 37% increase in labor productivity by 2025.

**SIGNALS: THIS TREND APPLIES TO YOU IF ...**

- Multiple, competing technology solutions are leading to workforce exhaustion, productivity plateaus, and team dysfunction
- Your technologies are focused on and designed for organizational performance, rather than human and team performance
- Your technology investments are measured solely on cost and ROI, rather than human outcomes
The readiness gap

According to the Deloitte 2023 Global Human Capital Trends survey, more than 90% of surveyed business leaders believe that using such technology to improve work outcomes and team performance is very important or important to their organization’s success. Yet only 22% believe their organizations are very ready to use technology to improve work outcomes and team performance.

![FIGURE 1: The readiness gap for harnessing technology](source: Deloitte 2023 Global Human Capital Trends survey)

While many organizations have implemented traditional workplace technologies to drive better work outcomes, many are currently cautious about embracing new intelligent technologies that are more experimental in nature. However, they see the opportunities ahead. Forty-two percent of business leaders expect that over the next 2–4 years, technology will help drive better organizational outcomes by nudging workers and teams to perform better.

The new fundamentals

Enable technology to work on the worker (and the team). The traditional view of technology as a substitute or supplement for human labor is too narrow. Moving forward, you need to harness technologies that help your people and teams become the best possible versions of themselves. This means nudging them to learn new behaviors, correct old behaviors, and sharpen skills. For example, successful and error-free surgeries in the operating room (OR) require finesse, but determining the exact amount of pressure to apply on the instrument is challenging for surgeons. Technology provides surgeons with smart scalpels and forceps that allow them to gauge and adjust pressure in real time, subsequently improving precision and patient outcomes.

Use interventions and nudges to make humans better. Technology can also aid humans in improving on things that are “fundamentally human.” Given the traditional view of technology as a substitute or supplement for humans, it’s ironic to think of technology being used to make humans more human. Yet that’s exactly what we’re talking about here. Technology can help us get better at what we already do best—things like driving well-being, practicing emotional intelligence, and fostering creativity and teaming, which technology itself can’t do.

Helping humans become better versions of themselves is a worthwhile endeavor on its own. However, from a business perspective, it has the valuable fringe benefit of making people better at their jobs, thereby boosting engagement and performance. Building on the surgery example from the previous fundamental, technologies are also monitoring care team members’ time in the OR and cross-referencing that time with error data for the relevant type of surgery, to deliver alerts about fatigue risk. Not only does this improve outcomes for the patient, it also improves well-being for the surgical team.

Scale insights for greater impact. Beyond the individual and team impact, this technology–human team collaboration can also drive impact through insights at scale. All this technology, whether it’s used for nudging, collaboration,
training, or another purpose, creates data “exhaust.” This data is a powerful tool all on its own. Following the surgical example, technology aggregates the data about finesses adjustments, time in-surgery, and errors, to draw insights across an entire hospital or health system to inform changes to workforce practices like shift length, scheduling, or equipment investments. This type of information could then be used to elevate performance and outcomes across workers, teams, the organization, and the ecosystem.

This imagined future isn’t just possible; in many cases, it’s already here. And its potential impact is even greater when applied not just to individuals, but also to teams (and to networks of connected teams pursuing adjacent goals). The result is improved performance, learning and development, communication, and collaboration. Executives who responded to the Deloitte 2023 Global Human Capital Trends survey believe in the benefits of enabling technology and teams to collaborate to drive outcomes, with one in three reporting an increase in financial performance as a result of their approach to technology and team collaboration.

Current experiments: What leading organizations are exploring

- **Humu** analyzes company data and worker feedback to identify changes likely to improve workers’ happiness, performance, and retention. The technology is like a virtual personal coach, using AI to mine worker surveys and other data inputs to identify which behavioral changes could help workers and organizations reach their goals. It then sends workers tailored nudges that appear in email, Slack, or Microsoft Teams. The nudges are aimed at changing behaviors, often with explanations or links to research about why the behaviors matter. As workers (and the people around them) report improvement, machine learning helps the system move on to additional goals.

- **Ultranauts** is using Teams and Slack bots to eliminate barriers that made it challenging for neurodivergent people to find a home in tech companies. The company’s CEO empowered employees to create their own personal “biodex”—a quick-start guide to working with them so people with diametrically different styles can immediately understand how to best collaborate.

- **Drishti’s** action recognition technology, which is enabled by AI and computer vision, allows DENSO, a Japanese auto component manufacturer, to generate real-time, continuous analytics on manual tasks performed by its production employees. The resulting data set gives production managers the ability to quickly identify and eliminate bottlenecks, improve processes, boost efficiency, and prioritize tasks. Drishti CEO Prasad Akella noted, “We’ve found that employees at factories are excited to use Drishti because it helps them train continuously without interference from a manager. The system nudges the line associate when a mistake happens, giving him or her the opportunity to fix the problem, unbeknownst to anyone else.”

- **Dawn Avatar Robot Café** in Tokyo has robot servers that are operated remotely by people who can’t leave their home due to disability, childcare, or other reasons. These remote-controlled robot avatars were designed to make the workplace more accessible, giving the remote café workers more opportunities to interact with others and expanding the pool of potential café workers.
The path forward

FIGURE 2
Survive. Thrive. Drive.

Survive
Remain viable in the marketplace

- Understand how the technology in place impacts the workforce experience as you automate and augment work
- Remove technology barriers for cross-team collaboration
- Define measures of success for team performance, inclusive of technology

Thrive
Differentiate to gain competitive advantage

- Incorporate nudging technology in your digital transformation journey
- Prioritize the “moments that matter” for human-technology collaboration, and the investments needed to address them
- Understand and address risks of humans and technology working together (e.g., configure technology to mitigate unconscious bias)

Drive
Lead the market by radically innovating and transforming

- Embed purpose into the enterprise tech strategy by choosing technologies whose functionality and capability help enable the organization’s purpose
- Enable technology-driven insights on human performance, which contribute to development opportunities and performance recognition decisions
- Measure technology investments against their ability to improve worker and team performance and human outcomes (e.g., well-being, engagement)

Source: Deloitte analysis.

Looking ahead

As we move from the information age to the imagination age, technology is evolving from helping workers produce outputs to enabling humans and teams to focus on outcomes, making work better for humans and humans better at work™. These outcomes have downstream effects on customers, product quality, site safety, the environment, and beyond. Realizing this value requires organizations to move away from outdated views of technology as a productivity enhancer and embrace the potential of intelligent technologies to enable human and team impact, powered by technology.

You’ll know your organization is making progress if workplace technology is improving teamwork and helping teams stay connected, and if workers are improving their personal capabilities with more time to focus on high-value cognitive tasks such as creativity, ideation, and innovation. These workplace technologies will also play a significant role in enabling other trends in this report, such as worker data, workforce ecosystems, and the future of the workplace.

Deloitte’s 2023 Global Human Capital Trends survey polled 10,000 business and HR leaders across every industry, with 105 countries participating. The survey data is complemented by interviews with executives from some of today’s leading organizations. These insights gathered shaped the trends in this report.
Endnotes

3. Interview with authors.
10. Emma Steen, “This new Tokyo café has robot waiters controlled remotely by disabled workers,” *TimeOut*, June 22, 2021

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About the authors

Christina Brodzik | Principal | Deloitte Consulting LLP | cbrodzik@deloitte.com

As a principal in Deloitte Consulting LLP, Christina Brodzik brings more than 20 years of experience to the human capital space. She focuses on financial services and insurance, and specializes in a wide range of transformations including strategic change, talent strategies, learning solutions, talent acquisition, and diversity & inclusion. As the national leader of Deloitte's Diversity, Equity & Inclusion Client Service practice, she is a certified facilitator for Deloitte's Inclusive Leadership Experience and Strategy Inclusion Labs.

In addition her client responsibilities, Brodzik has served as the Financial Services Women's Initiative lead for partner/director talent planning, as well as the Human Capital Women's Initiative deputy.

Sue Cantrell | Vice President | Deloitte Consulting LLP | scantrell@deloitte.com

Susan Cantrell is vice president of Products, Workforce Strategies at Deloitte Consulting LLP. She is a leading expert and frequent speaker on future of work and human capital. She is co-author of the Harvard Business Press book Workforce of One, and has been published widely in publications like Harvard Business Review, Wall Street Journal, and MIT Sloan Management Review. She has more than 20 years of experience serving as an executive advisor, author, researcher, and developer of new solutions that help organizations harness digital technologies and evolve their workforces to innovate, unlock agility, and drive transformation. She holds a Master of Science degree in management information systems from Boston University, and a Bachelor of Arts degree from Vassar College.

Kraig Eaton | Principal | Deloitte Consulting LLP | keaton@deloitte.com

Kraig Eaton is a principal in Deloitte Consulting LLP’s US Human Capital service area and serves as the colead of the Deloitte Global Human Capital Trends team. Eaton has more than 28 years of experience working with senior business and HR executives to transform their human capital strategies and capabilities to better support the business goals of the organization, specifically supporting some of the world's leading organizations on efforts spanning the full spectrum of HR and workforce transformations, from upfront strategy development through large-scale operating model, organization, and technology implementations.
John Forsythe | Managing director | Deloitte Consulting LLP | joforsythe@deloitte.com

John Forsythe is a managing director in the US Government & Public Services (GPS) Human Capital practice of Deloitte Consulting LLP. He specializes in helping executive clients lead behavioral change across organizational boundaries and is the senior sponsor of Deloitte's GPS Culture Transformation offering. Forsythe has more than 31 years of business experience, including 23 years in public services consulting. During his career, he has led many consulting assignments, developing expertise in culture, leadership development, strategic change, organizational assessment, communications, leadership alignment, and executive coaching. He has provided strategic advice and counsel to clients from across the government and commercial sectors, and his clients include the following public sector organizations: the US Air Force, the US Navy, the US Army, the US Marine Corps, the Office of the Secretary of Defense, US Transportation Command, Special Operations Command, the US Department of Commerce, the US Patent and Trademark Office, the US Department of Agriculture, the Environmental Protection Agency, the US Forest Service, the US Department of Veterans Affairs, and the US Department of Housing and Urban Development.

Michael Griffiths | Principal | Deloitte Consulting LLP | mgriffiths@deloitte.com

Michael Griffiths is a principal in Deloitte Consulting LLP's Workforce Transformation practice and serves as the colead of the Deloitte Global Human Capital Trends team. Griffiths leads Deloitte's Workforce Development market offerings, which drive the market in learning transformations, knowledge management, leadership development, and assisting clients to become skills-based. Griffiths is well published in the field of learning and talent and is the leading market voice on becoming a skills-based organization.

Steve Hatfield | Principal | Deloitte Consulting LLP | sthatfield@deloitte.com

Steve Hatfield is a principal with Deloitte Consulting LLP and serves as the global leader for Future of Work. He has more than 25 years of experience advising global organizations on issues of strategy, innovation, organization, people, culture, and change. Hatfield has advised business leaders on a multitude of initiatives including activating strategy, defining a preferred future, addressing workforce trends, implementing agile and resilient operating models, and transforming culture oriented to growth, innovation, and agility. Hatfield has significant experience in bringing to life the ongoing trends impacting the future of work, workforce, and workplace. He is a regular speaker and author on the future of work and is currently on the Deloitte leadership team shaping the research and marketplace dialogue on future workforce and workplace trends and issues. He has a master's degree in social change and development from Johns Hopkins and an MBA from Wharton, and is based in Boston.

Lauren Kirby | Manager | Deloitte Consulting LLP | lkirby@deloitte.com

Lauren Kirby is a manager in Deloitte Consulting LLP's Workforce Transformation practice with specific expertise in employee experience, talent, leadership, and change programs. She focuses on advising organizations as they align business and talent strategy and define the strategic initiatives that make their people a critical enabler of business and market success. In addition to authoring this report, Kirby served as the program manager for the 2023 Global Human Capital Trends team. She has an MBA from Duke's Fuqua School of Business.
David Mallon | Vice president | Deloitte Consulting LLP | dmallon@deloitte.com

David Mallon, a vice president with Deloitte Consulting LLP, is chief analyst and market leader for Deloitte's Insights2Action team. He and the Insights2Action team help clients to sense, analyze, and act—with purpose and precision—at the ever-shifting intersection of work, workforce, workplace, and industry. Part of Deloitte since 2013, Mallon is the former head of research for Bersin. He brings more than 20 years of experience in human capital and is a sought-after researcher, thought leader, and speaker on organization design, organizational culture, HR, talent, learning, and performance. Mallon is an author of Deloitte’s annual Global Human Capital Trends study and a cohost of the Capital H podcast.

Shannon Poynton | Senior manager | Deloitte Consulting LLP | shpoynton@deloitte.com

Shannon Poynton is a senior manager in Deloitte Consulting LLP's Human Capital practice with more than 10 years of experience designing and executing organization, talent, leadership, and change programs that enhance business performance. Poynton advises organizational leaders on strategies to help them retain critical talent, engage their workforce, and reimagine work through innovative combinations of humans and technology. She is a frequent speaker on talent and workforce trends and has coauthored Deloitte's 2020, 2021, and 2023 Global Human Capital Trends reports.

Nic Scoble-Williams | Partner | Deloitte Tohmatsu Consulting LLC | nscoble-williams@tohmatsu.co.jp

Nic Scoble-Williams, a partner with Deloitte Tohmatsu Consulting LLC in Japan, is Deloitte's global leader for Work. With more than 20 years' cross-industry experience in information technology services, talent strategy and advisory, and mergers and acquisitions, Scoble-Williams works with businesses and governments to embed future of work vision into enterprise transformation strategies. She is also a practicing lawyer and passionate about multilateralism to help provide equal access to opportunities for all, and position workers to thrive in the green and digital economies, in which decent work and life-long learning are key to putting humans on the path for a sustainable, equitable, and inclusive future. Scoble-Williams is a regular speaker and author on the key shifts transforming the future of work and the new opportunities and aspirations they present for making work better for humans and humans better at work.

Joanne Stephane | Executive Director, DEI Institute | Principal, Deloitte Consulting LLP | jstephane@deloitte.com

For more than 25 years, Joanne Stephane has worked with C-suite executives to define, design, and operationalize their workforce experience vision. She helps clients transform their Talent and HR organizations, strategy through implementation and beyond, to achieve sustainable results. Stephane is eminent on the evolving role of HR, and of the CHRO, in shaping the way enterprises compete, access talent, and curate experiences, and show up in the communities where they operate. She brings this perspective in examining how organizations can and should drive towards racial equity. In addition to serving clients, Stephane also leads Deloitte's US HR Strategy & Solutions Talent Group in the HR Transformation service offering, is the Chief DEI Officer of Deloitte's US Human Capital practice, and is the Executive Director of Deloitte's DEI Institute. Joanne primarily focuses in the Consumer Products, Health care, and Life Sciences sectors.
Yves Van Durme is the global organization transformation leader for Deloitte and is a partner in the North & South Europe Consulting practice of Deloitte. Van Durme has been leading the Strategic Change team on a journey to change “Change.” He specializes in cultural transformation, leadership and organization development, and data-driven people strategy, and has more than 24 years’ experience as a consultant, project manager, and program developer for human capital projects for multiple European, Japanese, American, and Belgian multinationals. Based on his experience coaching high-performance sports, he has an affinity for leadership and organization development. Previously, Van Durme was the business unit director “talent management” for Hudson BNL, where he was involved from a content and management perspective with HR strategy, competency, and performance management, career counseling, assessments, management development, organization, and change.