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Unleashing talent in the Age of With™
Your people with augmented power

We are now in the Age of With,TM
where companies are harnessing the
power of “with” to identify unique
advantages through analytics and
artificial intelligence.



Human workers, augmented with AI

Executives who are early adopters of artificial intelligence (AI) and cognitive technologies continue to be enthusiastic supporters. According to Deloitte's second edition of the *State of AI in the Enterprise*, these trailblazers are reporting substantial returns on initial AI projects and planning more for the future.¹

AI and its ability to augment human workers is one of the most influential forces shaping the future of work. AI is nearing ubiquity in today's economy, appearing in both the microeconomies—the share of jobs requiring AI increased by 450 percent from 2013 to 2018²—and macroeconomies—industry experts predict that AI deployment will add \$15.7 trillion to the global GDP by 2030.³

We are now in the Age of With,[™] where companies are harnessing the power of “with” to identify unique advantages through analytics and AI. Humans with machines, data with actions, companies with their customers. The results are insights that become automated, engagements that become insightful, and relevant information that can get into the right hands at the right moment.



Human workers,
augmented with AI

Along with those is another powerful force. It's the rise of "gig work" or alternative work arrangements—people who are not conventional full-time employees and can't be found on a traditional balance sheet. Previously offered only in niche industries, gig work currently involves up to 34 percent of the workforce, with this number projected to reach 43 percent by the end of 2020.⁴

Together, AI and alternative work arrangements are creating an augmented workforce that challenges organizations to fundamentally reconsider how jobs are designed and how the workforce should adapt.

Adding to this considerable challenge is the speed and complexity of the solutions and tools being introduced into the workplace and the need to understand that AI is much more than a single technology.

For example, the merging of the cyber and physical world with Industrial Revolution 4.0 is enabled by AI. Across factory floors and warehouses, AI and robotics are combining with other technologies to upend supply chains.

In the following pages, we will look at accessing and developing the right skills and capabilities, ensuring an engaged workforce. We will also address the questions to ask as you move from experimentation to embracing AI and analytics.

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Bridging the AI skills gap

Access to talent is a major issue in this new age of humans with machines. The demand is especially intense for technical skills that don't widely exist. Among the early adopters surveyed for Deloitte's *State of AI in the Enterprise* study, lack of AI skills is a top-three concern for 31 percent.⁵

Today, estimates put the number of AI specialists in the world at just over 22,000, with the estimated growth of jobs outpacing the supply of qualified talent.⁶ Clearly, organizations need to look at new ways of sourcing skills if they want to build future success on a foundation of AI and analytics technologies.

Deloitte's *2019 Global Human Capital Trends* report suggests several ways to tackle this, including finding "gig workers" in the alternative workforce

and strategically leveraging technology, which can range from AI-driven chatbots to video interviews to targeted job advertising.⁷

Another approach is to form alliances with AI technology vendors better equipped to find and keep top talent in this field. For example, in 2017 Google acquired Kaggle, one of the world's largest networks of data science professionals. As one of the world's biggest technical communities, Kaggle is attractive to organizations seeking freelance or contract-based technical talent, giving it enormous potential for growth. Platforms and talent marketplaces like Kaggle—and their prospects for generating tangible returns—are evidence of the potential and value offered by alternative workforce strategies.

Lack of AI skills is a top-three concern for 31 percent of respondents.



Help wanted: Augmented jobs of the future

Potential future jobs in the Age of With:⁸



Renaissance worker

Combine technical expertise in one or more domains with expertise in design, project management, or client and customer interaction. Bring background in STEAM, not just STEM, fueled by arts courses that add creativity and communication skills.



Cognitive work (re) designer

Redesign knowledge-based jobs and their underlying business processes to take advantage of technologies such as deep and machine learning, natural language processing (NLP) and generation, and robotic process automation (RPA).



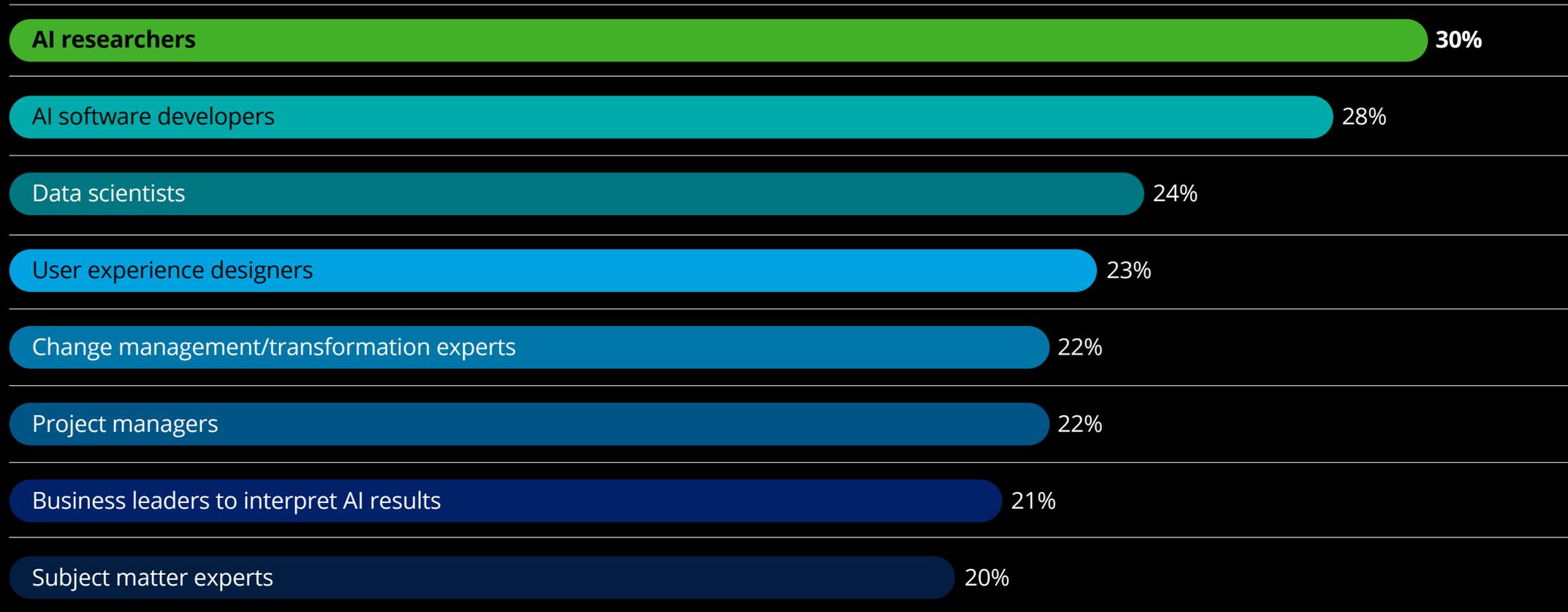
Digital twin engineer

Whether it's a jet engine or a shop floor, create a virtual representation of both the physical elements and the dynamics of how an IoT-connected product operates and interacts with its environment and use machine learning to optimize product performance.



AI skills most in demand

Respondents rank AI researchers as top talent needed



Job satisfaction for the workforce of the future

Seventy-two percent of those polled in the *State of AI in the Enterprise* study believe that AI will increase job satisfaction.⁹ While the very concept of a job—where it is done and by whom—is being redefined by such forces as the gig economy, proximity, and technology, there are fundamentals that contribute to a positive and fulfilling employee experience that remain constant. These include having meaningful work, a flexible work/life fit, and opportunities to learn and perform activities that have impact.

AI in the workplace has the potential to make jobs much more interesting for human workers by augmenting their tasks and freeing them to perform higher-level functions and make better-informed decisions. Artificial intelligence can spark new ways of working that blend the

best of what machines do with what humans bring to this collaboration: experience, judgment, and empathy. In fact, 78 percent of executives surveyed believe that AI-based augmentation of workers will fuel new ways of working.

For organizations, keeping employees satisfied and engaged will require a focus on developing and nurturing enduring workforce skills that are relevant for the workplace of the future. These include skills related to the human experience, complex systems thinking, and hypothesis-driven problem solving.

Organizations should also be prepared to support lifelong learners. The days of a single career are behind us; instead, people seek constant opportunities to learn new skills and evolve

their job responsibilities. For example, Deloitte's *Global Millennial Survey 2019* found that fully 1 in 2 (49 percent) of millennials plan to leave their current job in the next two years, with 63 percent of those planning to leave dissatisfied with opportunities for advancement or lack of learning and development.¹⁰ For this reason, keeping employees up to speed on thriving in an AI-augmented workplace is an important way to keep them happy and keep them at your company.

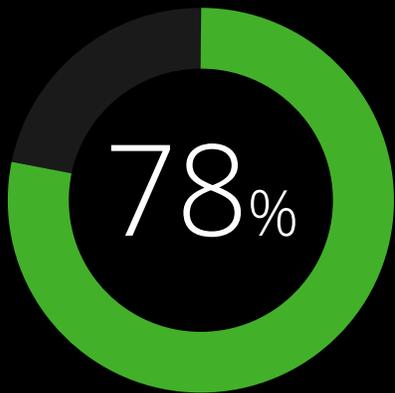
Artificial intelligence can spark new ways of working that blend the best of what machines do with what humans bring to this collaboration.



AI and the future of work



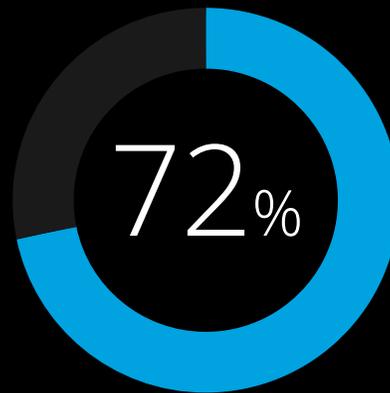
Decision making



say AI empowers people to make better decisions



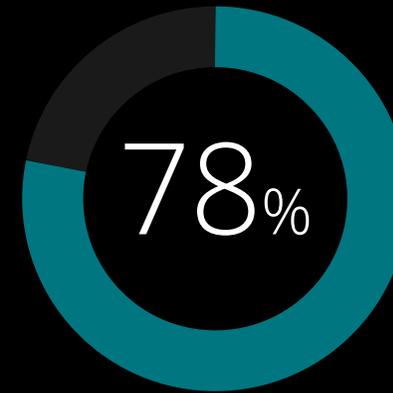
Job satisfaction



believe AI will increase job satisfaction



Nature of work



think AI-based worker augmentation will lead to new ways of working



“Imagination is more
important than knowledge.
Knowledge is limited.
Imagination encircles the world.”

— Albert Einstein



In the Age of With, which human skills are the immutable ones?

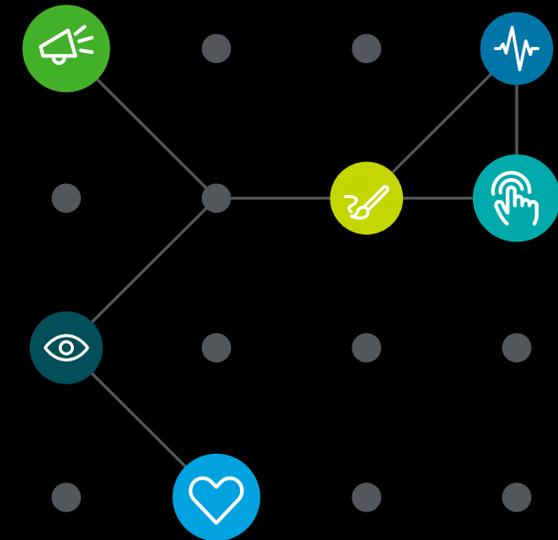
This is a fundamental question that leaders in business and academia are grappling with, and we are only beginning to get a sense of what the enduring human skills are in this nascent phase of human and machine collaboration.

In a recent study, Deloitte found that 62 percent of companies surveyed are actively using automation to eliminate transactional work and replace repetitive tasks, 47 percent are augmenting existing work practices to improve productivity, and 36 percent are “reimagining work.”¹¹ As machines replace humans in executing routine work, jobs are evolving to require new combinations of human skills and capabilities.

Even with the continued advancement of AI, there are skills at which humans will be particularly adept far into the future. One is

the capability for empathy. Another is complex problem-solving.

And this brings us back to imagination. Defined as the ability to form concepts of external objects not present to the senses, it is a skill that the machines of today cannot mirror. Our propensity to think in very novel and non-linear ways empowers us to not only derive answers and solve problems, as machines have proven capable of doing, but to prioritize which questions are worth answering and which problems are worth solving.



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In the Age of With, which human skills are the immutable ones?

But it is impossible to predict how this will evolve. In a conversation with Deloitte on how humans and machines can work together, MIT professor Thomas Malone notes that a few hundred years ago, only humans could do arithmetic. Yet now that machines can do arithmetic far better than humans can, we no longer think of math calculations as a human-like activity. Thus, as computers do more of the things that used to be doable only by people, we'll stop thinking of those things as part of what it means to be human. This is a malleable list that changes as the animals, machines, and other things around us in the world change.¹²

For business leaders, this evolving role of the machine is a puzzle that must be addressed. Imagine that you are responsible for operations at a large manufacturer and you want to maximize the life of equipment parts while avoiding unnecessary downtime. In the past, your maintenance team relied on "tribal knowledge" estimates or doing ongoing, in-depth analysis of each piece of equipment. Today, smart factories can use machine-to-machine and machine-to-human communication with cognitive technologies to make timely, accurate decisions. This predictive maintenance raises thought-provoking questions about the role of maintenance personnel versus the role of predictive algorithms, and what kind of traits a modern-day maintenance worker should possess.

Determining the immutable human skills needed in a workplace filled with AI solutions is hard work but necessary work. The need for human involvement is not going away, and the value of powerful, esoteric capabilities like imagination cannot be underestimated. After all, even the scientist behind the principles of relativity was proud to declare himself "enough of an artist to draw freely upon his imagination."¹³

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5 questions

Answer these five questions to unleash talent in the Age of With

1

What are the skills and capabilities that are going to be paramount for the future success of my organization?

2

How does the composition of my workforce relate to what I need? What is the gap between today and future needs?

3

If I am advocating a business strategy that implies a certain level of skill, have I thought about the external and internal talent landscape required to support that?

4

How am I planning to access those skills and capabilities? Have I opened the aperture to consider the gig economy and proximity dimension?

5

How do I set up internal systems and platforms to enable continuous adaptation of skills?



Let's talk

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Endnotes

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