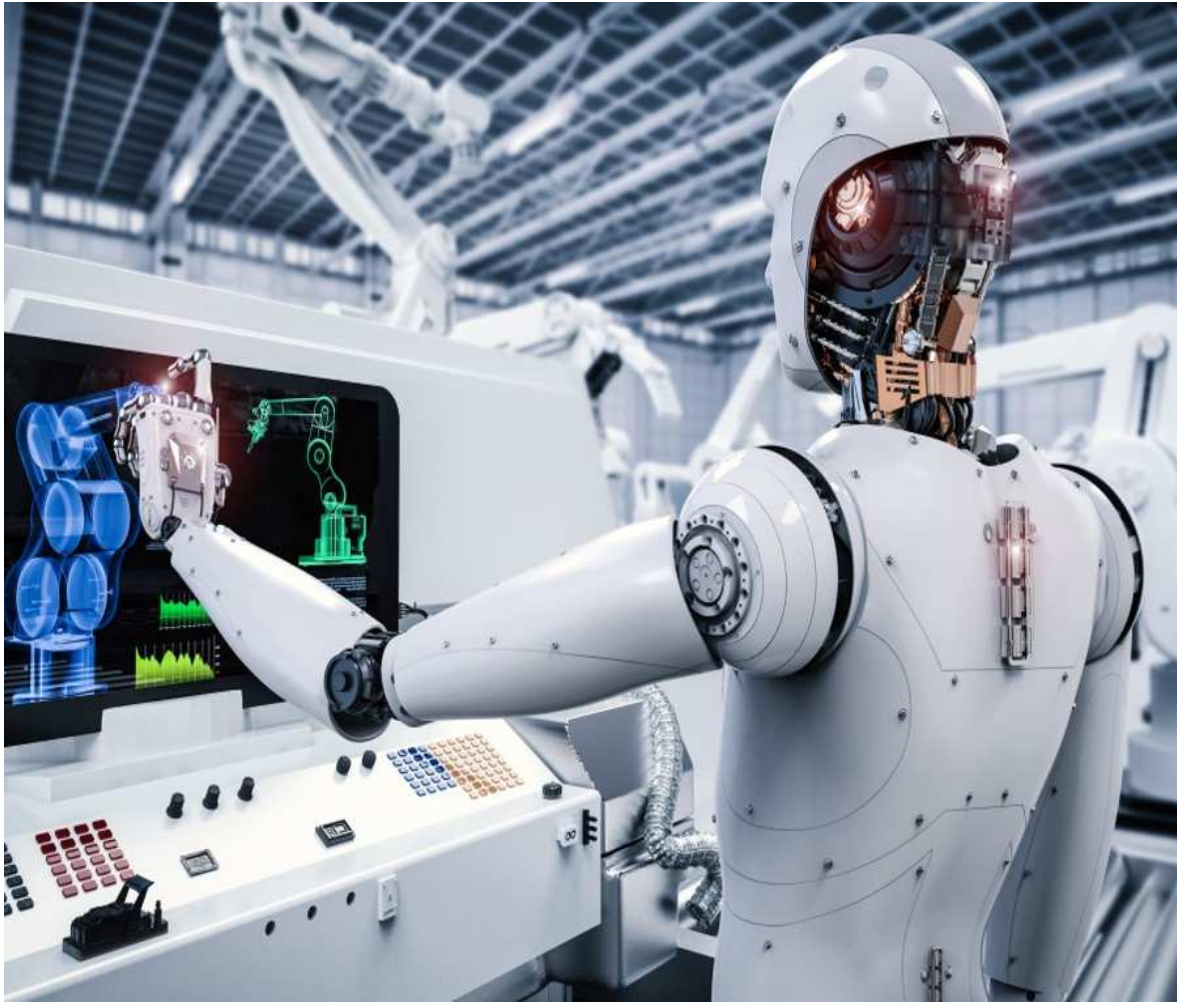# WORKFORCE 2030

FOUR KEY DRIVERS SHAPING THE FUTURE

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> Policy makers will need to show bold leadership to overcome understandable discomfort among citizens about the perceived threat to their jobs as automation takes hold.

What monumental shifts can we expect in twelve years time? How will the labor and business landscape alter as artificial intelligence, automation, and smart robots truly pick up steam?

One thing most analysts and futurists agree upon is that considerable labor force disruption will occur comparable to the shift away from agricultural societies to manufacturing during the Industrial Revolution.

Important factors in navigating business and labor force disruption will depend on how companies provide solutions on the mammoth task of skilling and reskilling people to work with AI.

Employees and contingent workforces will need to adjust to a new world in which job turnover could be more frequent. Transitioning to new types of employment and jobs will require an ongoing refresh of skills to match the needs of a dynamically changing job market.

Four key drivers shaping the labor landscape in 2018 will directly or indirectly impact how we live and work in 2030 and beyond.

Key Driver #1: Technology Innovations

MIT Technology Review defines artificial intelligence as "an evolving constellation of technologies that enable computers to simulate elements of human thinking, including learning and reasoning".

Automation has been with us for decades, but it's not out of the realm of possibility that a transformative leap in neuroscience could occur within a decade--dramatically moving the AI needle.

Until then, we'll continue to see innovative breakthroughs in healthcare, such as robotic surgeries and AI helping cities to become healthier.

And don't underestimate the rise of the robotic "smart" gripper as a means of improving productivity in the manufacturing, agriculture, and retail industries.

But here's the rub. Innovative breakthroughs don't automatically translate into products and services for *humanity's greater good*, and although some amazing AI for good products are in play, this might not always be the case.

What we need are globally agreed to ethics guardrails for algorithms, artificial intelligence, automation and robotics since legislating guardrails post-design may be like wishing the genie back in the bottle.

Key Driver #2: Social Fabric

A study by the McKinsey Global Institute reports that advances in AI and robotics could result in as many as 800 million jobs lost worldwide by 2030. In the U.S. alone, between 39 and 73 million jobs--close to a third of the country's total workforce--could be impacted. But depending on the acceleration of AI, it's difficult to say with certainty what the jobs of the future will look like or the skills required to do these jobs.

The pace and type of change determine the intensity of the impacts to people, culture, and the fabric of society. What do these transformative digital innovations mean for societies ill-prepared to deal with such large-scale disruptions?

Some believe that universal basic income (UBI) could be the answer for an interim period when automation could initially replace more jobs than create new ones--a safety net for displaced populations unable to find paid employment (whatever this eventually looks like) or for those workers pursuing an educational pathway that helps them transition into jobs in demand in the future.

UBI pilots have been around since the 1960's. Chicago may be the largest city to launch a basic income pilot for a subset of its citizens. Interested in learning more about UBI programs and tracking their status? You can keep current via the *Basic Income Earth Network* (https://basicincome.org).

Key Driver #3: Industrial Disruption

McKinsey & Company's *Notes from the AI Frontier* predicts the main economic impact of artificial intelligence hasn't yet arrived. See their AI series at https://www.mckinsey.com/featured-insights/artificial-intelligence

***Highlights from the report**...*

By the numbers: The study predicts that 70 percent of companies will adopt at least one form of AI by 2030. The result is a potential $13 trillion in additional economic activity worldwide. AI could contribute an average of 1.2 percent to global annual GDP growth for the next decade.

Unequal impact: More technologically advanced countries have higher wages, which creates an increased incentive to replace human work with automation. That'll lead to inequality between top executives (who will profit) and workers (who stand to lose out—see "Who will own the robots?").

On a global scale... Less wealthy nations have fewer resources to dedicate to AI, and so won't gain as much from its development. The report predicts this will widen the divide between wealthier and less-advanced countries.

Business Trends

Companies are beginning to get in front of the curve in retraining their workforces for a time in the near future when employee value is measured in how well someone works with AI tools, as well as how they collaborate with a smart robot as much as another human.

Check out the article:
The Real Cost of Retraining Your Workers to Keep Up With Your Robots
https://www.inc.com/michelle-cheng/how-companies-embrace-automation-robots-retraining-workers.html

Key Driver #4: Institutional Transformation

Governments

The pace of change will be a big factor in whether workforces--especially mid-career and middle-age workers--can successfully adapt to an accelerated, automated economy. Not surprisingly, governing in this environment will strain resources as leaders and policy makers seek to prepare their constituents for an AI world. Missed opportunities to retrain and upskill workers could further widen the economic gap between the haves and the have-nots on a global scale.

In the U.S. two mayors on opposite sides of the country are reinventing their cities and discovering what it means to assimilate technological transformation into the everyday lives of their populations.

- **Pittsburgh Mayor, William Peduto**, kicked off his city's reinvention in 2013, a microcosm of what many cities, towns, and rural communities will face in the coming decade. Will Pittsburgh be able to grow its population while ensuring that prosperity reaches beyond just the high-tech entrepreneurs and specialized digital workers?

- On the other side of the country, a California city wracked with high unemployment, high crime, and low levels of higher education, **Stockton's Mayor Michael Tubbs** launched a citywide initiative "Workforce Development Action Plan: The Need for Transformation in early 2018 to alter the city landscape. Both transformative and socially responsible, the Skills PACT action plan looks to prepare Stockton's workforce for the "changing nature of relevant skills in order to acquire and retain middle-wage jobs".

How can you design an ethical robot lawyer? What regulations are needed for flying taxis? These are some of the questions the **British government** is hoping to answer with a new £10m fund for futuristic projects that pose significant challenges to existing rules and regulations.

Education

Globally, academic institutions are tackling their own transformations while reinventing how they address the needs of new students, returning students seeking to upskill in order to remain competitive, and alumni who increasingly expect their schools of choice to keep them ahead of the curve. Here in the U.S. private universities and state and local community colleges grapple with the 'what, how, and who' of addressing technological disruptions--*what* curricula are required for this transformative effort, *how* will it be funded, and *who* will teach it.
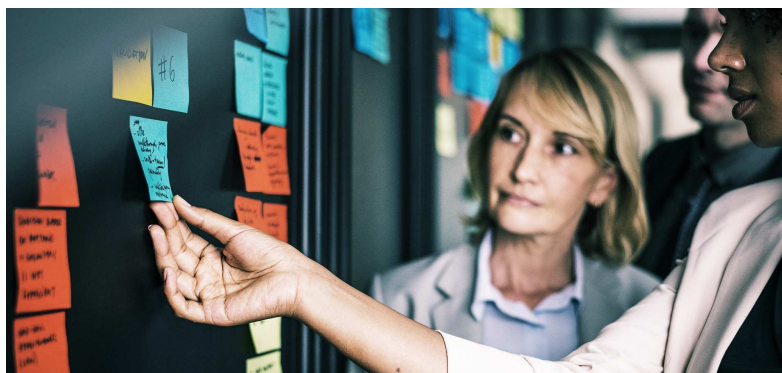
Conclusion

Employers, business leaders, and career professionals can expect considerable workplace disruption in the coming decade. What we do *today* to manage change associated with this technological transformation will impact the lives we live in 2030 and beyond. Now is the time to seek out opportunities and manage risks for what could become the biggest disruptive and transformative experiences in many of our lifetimes.

Additional resources for you

AI for Good
http://www.salesforce.org/ai-good-whos

Making AI Into Jobs
https://www.technologyreview.com/s/611412/ai-could-wreak-economic-havoc-we-need-more-of-it/

Who Will Own the Robots?
https://www.technologyreview.com/s/538401/who-will-own-the-robots/

Stockton Workforce Development Action Plan: The Need for Transformation
https://www.scribd.com/document/383746659/Stockton-Workforce-Development-Action-Plan-The-Need-For-Transformation

Jobs Lost, Jobs Gained: What the Future of Work Will Mean for Jobs, Skills and Wages
https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages

'Robolawyers' among futuristic ideas backed by £10m innovation fund
https://www.theguardian.com/business/2018/oct/05/business-secretary-unveils-10m-fund-for-innovation

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