

# Preparing Workers for the Future of Work



## Overview:

Disruptive technologies threaten to displace workers at the same time as businesses struggle to fill tech-enabled jobs of the future. Business leaders and policymakers must rewire the labor market for inclusion, so that technology serves as an engine of opportunity and growth rather than a driver of displacement and inequality.





In the not-so-distant future, we can create a labor market where employers value the potential of people who may not hold four-year college degrees, but possess skills companies desperately need. In this future, people would get a fair shot at a fulfilling job, a rewarding career, and a better life for themselves and their families.

**That future starts with understanding the problem we face today.**

Technological advancements such as automation and artificial intelligence (AI) are changing the nature of work and opportunity. Low-wage workers and other vulnerable Americans will likely bear the brunt of displacement as technology takes on more repetitive tasks.

Already, companies say they have difficulty finding enough “qualified” candidates to fill open roles. If employers and policymakers don’t help workers prepare for the challenges of a tech-intensive future, the perceived skills gap will only continue to grow and good jobs will go unfilled.

To address these challenges:

1. Employers must identify ways to reskill and upskill workers.
2. Educational institutions and training providers must focus on building the skills most in demand.
3. And policymakers must create new investment incentives for employers and workers that encourage lifelong learning and adaptability.

**Tech Innovations Likely to Impact the Most Vulnerable Workers**

Automation, AI, machine learning, and other emerging technologies are expected to impact millions of jobs. According to IBM, these innovations will require up to 120 million workers worldwide to be retrained over the next three years in the world’s 12 largest economies.<sup>1</sup> In the United States, this could mean 32% of the workforce will need to change occupations or learn new skills to remain employable to employers.<sup>2</sup>

Vulnerable populations – low-wage workers, non-college graduates, rural Americans, and minorities – face the highest risk from displacement due to technology advances.

The outlook for the first two groups is bleak:

- Workers without four-year degrees are four times more likely to work in highly automatable jobs than individuals with a bachelor’s degree or higher, and 14 times more likely than individuals with a graduate degree.<sup>3</sup>
- Up to 55% of tasks performed by low-wage workers are at risk of automation.<sup>4</sup>
- As much as 78% of all job displacement due to automation could affect workers with no post-secondary education.<sup>5</sup>

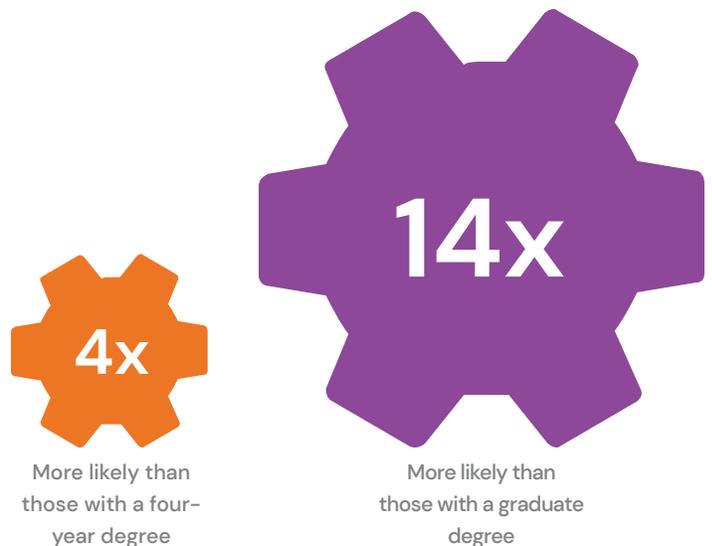
Minority and younger workers also face heightened risk of being displaced by technology:

- 47% and 44% of tasks conducted by LatinX and African American workers respectively, are at risk of being automated, while white and Asian workers face slightly lower risks – 40% and 39%, respectively.<sup>6</sup>

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## Automation of Jobs

Individuals without a four-year degree are more likely to lose a job to automation

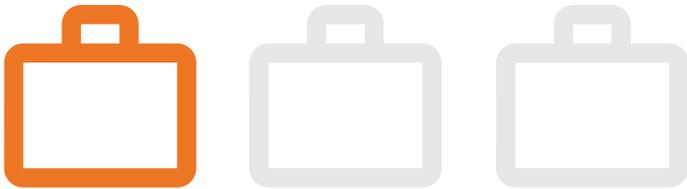


# “The impact of technology on our lives — and on the future of meaningful work — is the result of research, investment, regulatory, and business model choices that are made by people.”

Byron Auguste, CEO and Co-Founder, Opportunity@Work

## Job Creation

One out of every three jobs that exist today did not exist 25 years ago



- 49% of tasks conducted by workers aged 15–24 are automatable, suggesting younger workers could lose the skill-building experiences often required to advance into better-paying jobs.<sup>7</sup>

It’s not just workers who face challenges. Businesses could suffer if they fail to harness technology and build a resilient workforce prepared to thrive in the future of work.

### We See an Opportunity, Not Just a Problem

It doesn’t have to be this way. Historically, disruptive technologies have improved business efficiency and spurred the creation of more jobs than those lost, moving business and the economy forward.

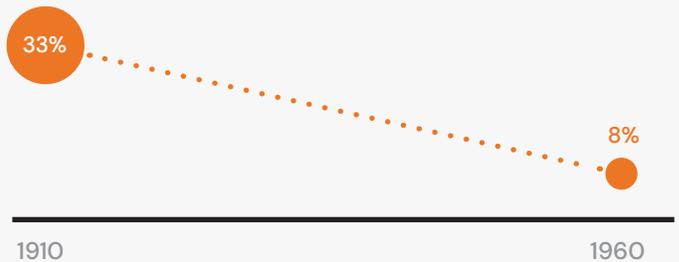
Between 1910 and 1960, tech innovation in the agricultural industry reduced the number of farm jobs in America from 33% to just 8% of the labor force, with approximately 9.7 million jobs lost.<sup>8</sup> Instead of succumbing to the disruption, America persevered, shifting our collective focus to build a high school movement that prepared young people for new office and factory jobs. This helped create the strongest middle class in the world.

Likewise, the internet boom has had a dramatic impact on job creation. By some estimates, one out of every three jobs that exist today did not exist 25 years ago.<sup>9</sup> The same opportunity for positive impact lies before us now.

But simply investing in new technologies is not enough. Businesses already scrambling to find skilled workers will need to do more to help individuals prepare for the future of work.

## Farming Jobs Lost

Tech innovation led to approximately 9.7 million jobs lost.



## The Labor Market has an Opportunity Gap



## The Solution? Invest in New Skilling and Workforce Development Initiatives

As the nature of work evolves, we have the opportunity to make transformative changes that not only serve businesses well but also expand opportunities for workers. In order to achieve this:

### Employers must:

- Invest in more programs and initiatives to upskill and reskill workers for the jobs of tomorrow, reversing the 42% decline in workers receiving employer-sponsored training since 1996.<sup>10</sup>
- Support skill development programs, training organizations, and alternative pathways to acquiring relevant, in-demand skills that are rarely taught at four-year colleges.

- Hire for performance over pedigree by removing unnecessary degree requirements that screen out qualified candidates and constrain an already tight talent pool.

### Policymakers must:

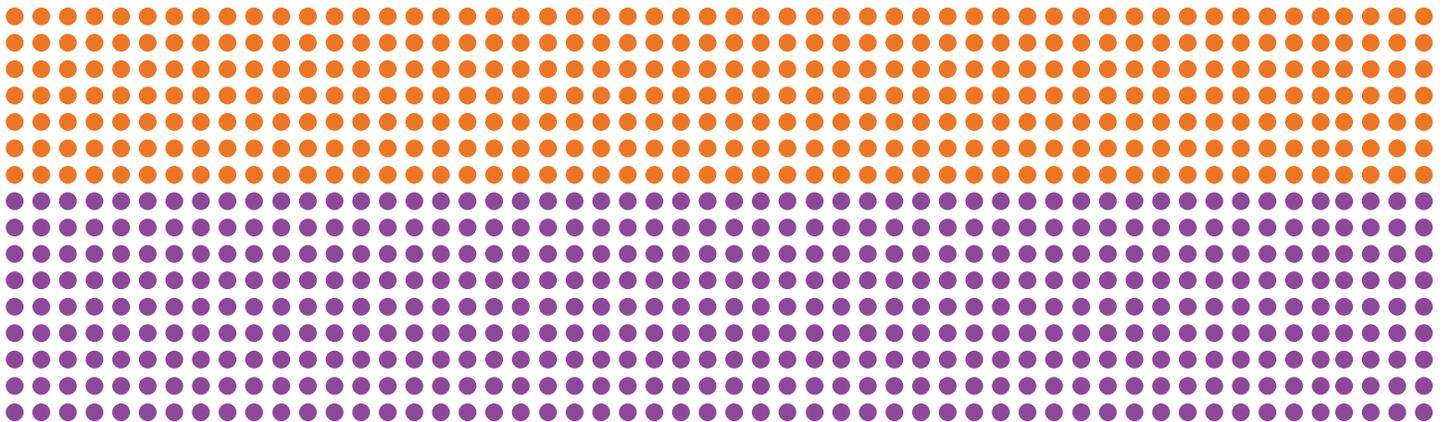
- Develop policies and programs that incentivize investments in human capital and expanding opportunities for lifelong learning by, for instance, allowing Pell Grants to be used for alternative pathways other than college.
- Collaborate with stakeholders – business, education, training providers, NGOs, and others – to leverage collective existing resources and create new ones that open up opportunity for workers.

## 120 Million Individuals

According to the U.S. Bureau of Labor Statistics, 120 million individuals in the U.S. labor market graduated from high school but do not have a four-year college degree.

Each Dot = 139,000 people

● = STARs



<sup>1</sup> La Prade, Annette, Mertens, Janet, Moore, Tanya, and Wright, Amy. “The enterprise guide to closing the skills gap,” Report September 2019. <https://www.ibm.com/downloads/cas/EPYMNBJA>

<sup>2</sup> Lund, Susan, Manyika, James, Hilton Segel, Liz, Dua, André, Hancock, Bryan, Rutherford, Scott, and Macon, Brent. “The future of work in America,” Report July 2019. <https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Future%20of%20Organizations/The%20future%20of%20work%20in%20America%20People%20and%20places%20today%20and%20tomorrow/MGI-The-Future-of-Work-in-America-Report-July-2019.ashx>

<sup>3</sup> Ibid

<sup>4</sup> Muro, Mark, Maxim, Robert, and Whiton, Jacob “Automation and Artificial Intelligence: How machines are affecting people and places,” Report January 2019. <https://www.brookings.edu/research/automation-and-artificial-intelligence-how-machines-affect-people-and-places/>

<sup>5</sup> Lund, Susan, Manyika, James, Hilton Segel, Liz, Dua, André, Hancock, Bryan, Rutherford, Scott, and Macon, Brent. “The future of work in America.”

<sup>6</sup> Muro, Mark, Maxim, Robert, and Whiton, Jacob “Automation and Artificial Intelligence: How machines are affecting people and places.”

<sup>7</sup> Ibid

<sup>8</sup> Wyatt, Ian D. and Hecker, Daniel E., “Occupational changes during the 20th century,” Report March 2006. <https://www.bls.gov/mlr/2006/03/art3full.pdf>

<sup>9</sup> Leopold, Till Alexander, Ratcheva, Vesselina, and Zahidi, Saadia, “The Future of Jobs,” Report January 2016. [http://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs.pdf](http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf)

<sup>10</sup> White House Council of Economic Advisers, “Economic Report of the President,” Report February 2015. [https://obamawhitehouse.archives.gov/sites/default/files/docs/cea\\_2015\\_erp\\_complete.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/cea_2015_erp_complete.pdf)

### Graphic Citations

*Automation of Jobs:* Lund, Susan, Manyika, James, Hilton Segel, Liz, Dua, André, Hancock, Bryan, Rutherford, Scott, and Macon, Brent. “The future of work in America.”

*Job Creation:* Leopold, Till Alexander, Ratcheva, Vesselina, and Zahidi, Saadia, “The Future of Jobs.”

*Farming Jobs Lost:* Wyatt, Ian D. and Hecker, Daniel E., “Occupational changes during the 20th century.”

*120 million Individuals:* Employment status of the civilian noninstitutional population 25 years and over by educational attainment, sex, race, and Hispanic or Latino ethnicity, 2018.