

Q4 2021

ANSWERING AMERICA

**WILL AUTOMATION
STEAL OUR JOBS?**



BUSINESSFORWARD
FOUNDATION

WILL AUTOMATION STEAL OUR JOBS?

ANSWER:

**STEAL THEM? MAYBE. CHANGE THEM? ABSOLUTELY.
AUTOMATION CREATES AND DESTROYS JOBS SIMULTANEOUSLY,
CHANGING THE JOB MIX AS IT GOES.**



**THE
QUESTION**

THE
ARGUMENT

THE DIGITAL
REVOLUTION

WORKERS WILL
HAVE TO ADAPT

CASE STUDY:
THE SKILLS GAP

THE OPPORTUNITY
GAP

FILLING THE GAPS

RURAL AREAS
HIT HARDEST

HOW BUSINESSES
CAN SUPPORT

WASHINGTON'S
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ENDNOTES

THE ARGUMENT

1

Technological innovations — including automation, machine learning, and access to remote work — are displacing certain jobs but creating others. Trends toward automated work were already in motion before COVID-19, but the pandemic accelerated them and is likely to permanently reduce demand for traditionally “low-skill” occupations.

2

Tomorrow’s jobs will demand more complex skills, geared toward digital tasks and continuous learning, and they will pay better. The bad news is that employers are struggling to fill open positions, despite a pandemic-induced elevation in unemployment. The majority of business leaders cite a “skills gap” as the leading barrier.

3

But the skills gap is also an “opportunity gap.” There are millions of Americans who could succeed in better-paying jobs but are overlooked because they exist outside traditional talent pools. Closing both gaps would fix our labor market, raise families into the middle class, and drive economic growth.

4

If we don’t, job displacement will increase inequality and hit rural areas hardest. A collaborative approach across government, business, and educational organizations is the only way to ensure we train our workforce to deliver the skills employers actually need, and give all Americans an equal opportunity to develop them.



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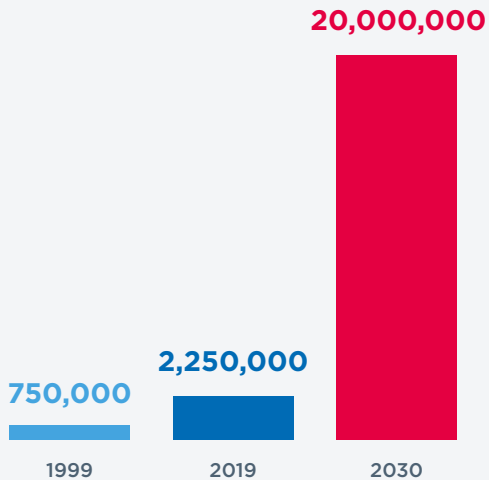
THE DIGITAL REVOLUTION IS CHANGING WORKPLACES

Automation creates and destroys jobs simultaneously, changing the job mix as it goes.

TECHNOLOGY IS DISRUPTING TRADITIONAL OCCUPATIONS

By 2025, time spent on current tasks at work by humans and machines will be equal.¹

And by 2030, there will be nine times more robots than there were in 2019.²



MIT Economist Daron Acemolu estimates that every new robot reduces employment by 5.6 workers³

AUTOMATION TENDS TO DISPLACE LOWER-PAYING JOBS

New job openings, which will reflect tomorrow’s task distribution and pay more, will be filled by workers who upskill and reskill.

AUTOMATION IS CHANGING THE JOB MIX EVERYWHERE

(Projected change in global jobs by 2027)

+ 97M JOBS CREATED

- 85M JOBS DISPLACED

= 12M JOBS DEMANDING NEW SKILLS⁴

INDUSTRIAL EMPLOYERS WILL REQUIRE SKILLED WORKERS MORE “THAN EVER BEFORE”

“ As the industry continues to introduce technological innovations, the profile of the workforce will evolve and require higher levels of education and training than ever before.

This is particularly true with the development of “breakthrough”, or next-generation steelmaking technologies that will be low in CO2 emissions and result in significant changes to the way that steel is made. In this context, the demand for engineers, computer scientists, business major, and skilled production workers is expected to remain strong.⁵ ”

worldsteel
ASSOCIATION



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TOMORROW'S TASK DISTRIBUTION WILL REQUIRE DIFFERENT SKILLS

Trends toward smart factories and digital work were already in motion before COVID-19, but the pandemic accelerated them.

JOB REQUIREMENTS ARE CHANGING

70%

OF BUSINESS LEADERS

indicate there will be significant shifts in the skills required in their workplaces this decade.⁶

PERCENT OF BUSINESS LEADERS WHO EXPECT EMPLOYEES TO LEARN NEW SKILLS ON THE JOB⁷

65%

2018

94%

2020

WORKERS HAVE TO ADAPT



50%

OF ALL WORKERS WILL NEED TO RESKILL BY 2025⁸



THE OTHER HALF WILL BE REQUIRED TO UPDATE

40%

OF THEIR SKILLSET.⁹

TOMORROW'S JOBS WILL DEMAND MORE COMPLEX SKILLS

Jobs will require more familiarity with cloud computing, big data, e-commerce, robots, and AI.

Employers will increasingly seek out workers who can learn on the job and solve problems as they arise.

BY 2030, WORKPLACE DEMAND WILL INCREASE BY

60%

FOR TECHNOLOGICAL SKILLS

40%

FOR CREATIVITY

33%

FOR ENTREPRENEURSHIP¹⁰



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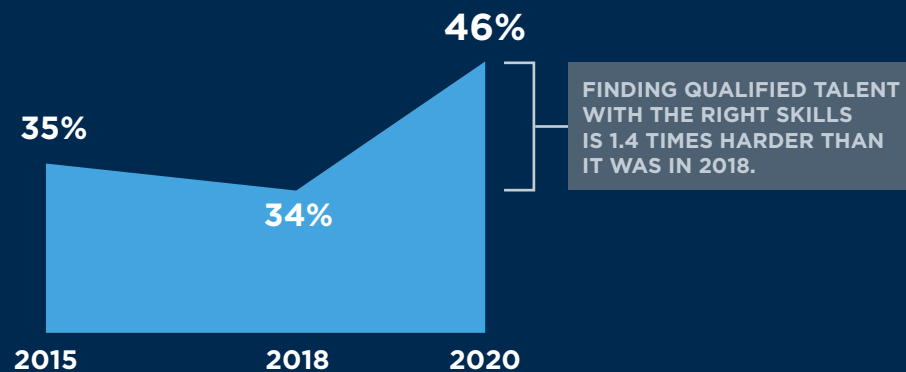
CASE STUDY (1/3): MANUFACTURING JOBS ARE CHANGING FASTER THAN OUR WORKFORCE, CREATING A “SKILLS GAP”

More than two-thirds of manufacturers believe there is a “skills gap” in their industry – and they are not alone: 55% of respondents across sectors identify a skills gap in the labor market as the leading barrier to their company’s adoption of new technologies.¹¹

MANUFACTURERS AREN'T FILLING OPENINGS

Despite the fact that the unemployment rate doubled the number of available workers between 2018 and 2020, manufacturers reported that finding qualified workers in 2020 was 1.4 times harder than in 2018.

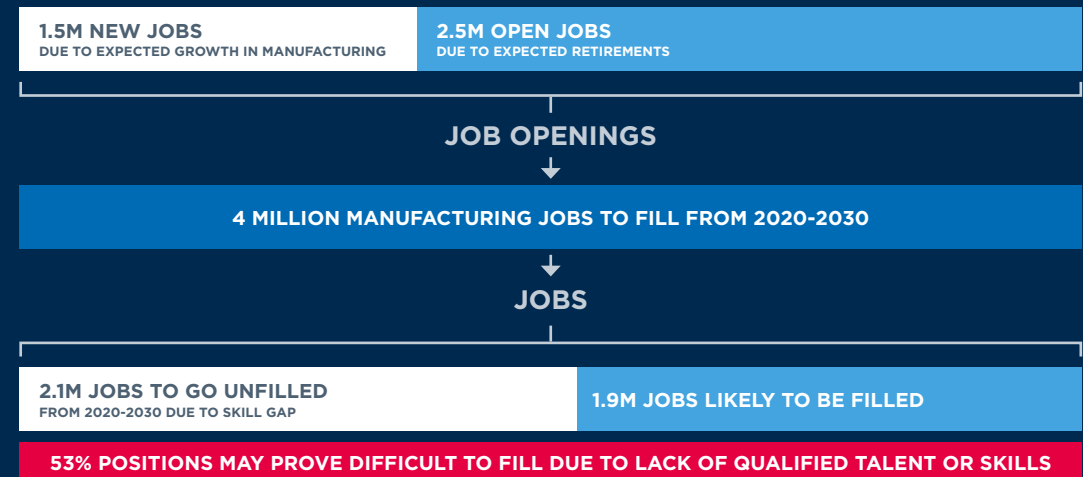
SHARE OF OPEN POSITIONS MANUFACTURERS ARE FINDING DIFFICULT TO FILL DUE TO THE SKILL MISMATCH



BY 2030, INABILITY TO FILL OPEN JOBS COULD COST THE U.S. MORE THAN \$1 TRILLION

American manufacturers could see 4 million jobs open up by 2030, but due to a mismatch of the skills demanded and supplied in our labor market, only 1.9 million are likely to be filled.

2.1 MILLION OPEN POSITIONS COULD GO UNFILLED BY 2030



NOTE: RETIREMENT AGE OF 66 WAS CONSIDERED FOR THE ABOVE ANALYSIS

SOURCE: DELOITTE¹²



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(2/3): THE SKILLS GAP IS ALSO AN “OPPORTUNITY GAP”

Opportunity@Work is a nonprofit organization that focuses on fixing the inefficiencies in today’s labor market. The CEO and co-founder, Byron Auguste, joined Business Forward in April for a discussion about skills, the opportunity gap, and the future of work — [click here to listen](#).

TRADITIONAL RECRUITMENT EXCLUDES MILLIONS OF WORKERS

In response to growing concerns about a “skills gap” in the labor market, Opportunity@Work has identified a different but related issue: the “opportunity gap,” which refers to the range of social and economic factors that lead to employers screening potential applicants out of their hiring processes.

Opportunity@Work cites the opportunity gap as primarily responsible for the mismatch between skills demanded by employers and those offered by labor force participants.¹³



TALENTED WORKERS ARE BEING OVERLOOKED

More than half of U.S. workers don’t have a four-year college degree, yet employers still make it a prerequisite to be considered for most jobs paying a middle-class wage.

60%

OF U.S. WORKERS DON'T HAVE A FOUR-YEAR COLLEGE DEGREE

74%

OF NEW JOBS TYPICALLY REQUIRE A FOUR-YEAR COLLEGE DEGREE

26%

OF NEW JOBS ARE AVAILABLE TO 60% OF THE WORKFORCE ¹⁴



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(3/3): WE CAN FIX OUR LABOR MARKET BY CLOSING BOTH GAPS

CLOSING THE OPPORTUNITY GAP WOULD PROMOTE EQUITY AND LIFT FAMILIES INTO THE MIDDLE CLASS

Opportunity@Work has a label for the talented Americans who have acquired skills through pathways other than a four-year degree, STARs (Skilled Through Alternative Routes). There are 71 million of them in the workforce.

STARs all have the necessary skills to succeed in work more highly-valued than the work they do now. By hiring outside traditional talent pools, employers can move these talented, overlooked workers into better-paying, mid-level jobs.

71 MILLION TALENTED WORKERS ARE BEING OVERLOOKED¹⁵

HS = GRADUATED HIGH SCHOOL BA = BACHELOR'S DEGREE

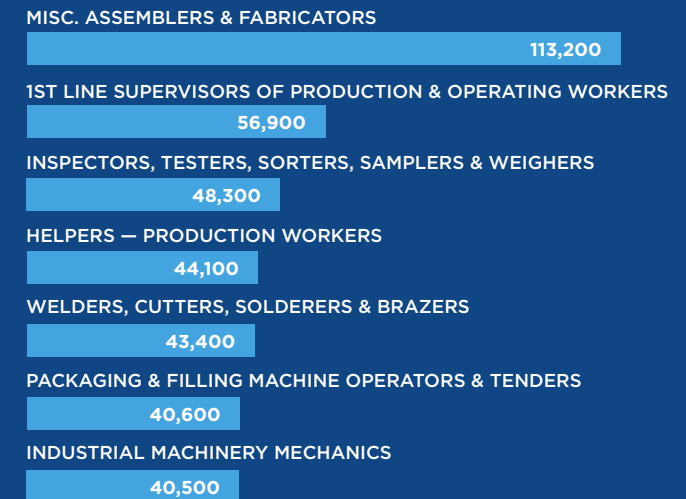


CLOSING THE SKILLS GAP WOULD FILL OPEN POSITIONS AND DRIVE PRODUCTIVITY

By encouraging more — and better — training programs and community college opportunities, we can make sure our workforce is prepared to fill thousands of mid-level job openings over the next decade.

MANUFACTURERS EXPECTED TO STRUGGLE FILLING MIDDLE-SKILL ROLES

MIDDLE-SKILL OCCUPATIONS WITH THE HIGHEST PROJECTED JOB OPENINGS (2019-2029)¹⁶



These positions are concentrated in rural areas, where automation and population declines are stressing labor markets. Filling middle-skill, manufacturing roles is critical to supporting those local economies.



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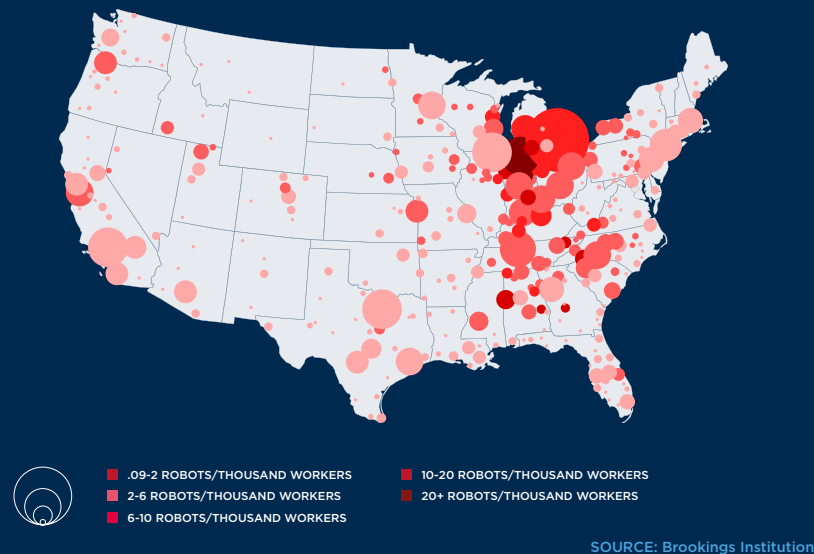
WITHOUT ACTION, JOB DISPLACEMENT WILL CONTINUE HITTING RURAL AREAS THE HARDEST

Automation can be good for cities but bad for rural areas, where the concentration of automatable jobs tends to be higher.

AUTOMATION IS DISPLACING LOW-SKILL MANUFACTURING JOBS IN THE MIDWEST

Robots are replacing the traditional manufacturing jobs that have historically defined Midwestern economies. More than 20% of robots in the U.S. are based in Michigan and Ohio alone, largely due to the highly automatable processes of the automotive industry.

NUMBER & INCIDENCE OF INDUSTRIAL ROBOTS¹⁷
(PER THOUSAND WORKERS) BY METROPOLITAN STATISTICAL AREA, 2015

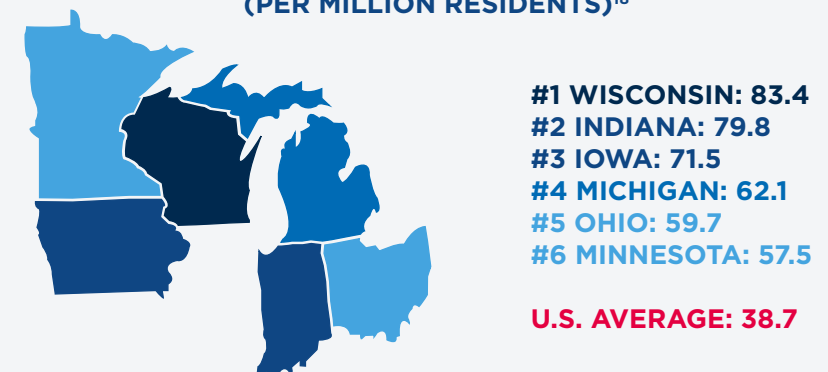


BUT BETTER-PAYING JOBS WILL OPEN UP, AND QUALIFIED WORKERS ARE THERE

Despite the rate at which traditional manufacturing jobs are being displaced, Midwestern states will be home to many of the 2.1 million new, skilled manufacturing jobs expected to open up over the next decade.

These same states are already home to a disproportionately high number of STARS (many of whom are experienced manufacturing workers) and are well-positioned to fill the higher-value jobs of the future.

CONCENTRATION OF MANUFACTURING JOBS
(PER MILLION RESIDENTS)¹⁸



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BUSINESSES CAN AND SHOULD PROVIDE SUPPORT

INVESTING IN WORKFORCE DEVELOPMENT IS GOOD FOR EMPLOYERS

In a well-functioning labor market, employers can hire from a talented pool of workers who already have applicable skills and are well-positioned to learn new ones.



EMPLOY A TALENTED WORKFORCE



GROW STAFF AND PROMOTE SKILLED EMPLOYEES



IDENTIFY AND SUPPORT LEADERS



CONTINUOUSLY ADAPT



PRODUCE BETTER PRODUCTS

CASE STUDY: SUNRUN LAUNCHES INNOVATIVE EDUCATION PROGRAM TO UPSKILL AMERICA'S WORKFORCE FOR GREEN CAREERS

August 25, 2021 — One of the country's leading solar, battery storage, and energy services provider launched PowerU, a fully-funded employee education and upskilling program designed to train and develop the clean energy workforce. Sunrun partnered with Guild Education, a private company that helps businesses offer educational programs.¹⁹

SUNRUN

GUILD



POWERU PROGRAMS

- BACHELOR'S AND MASTER'S DEGREES in sustainability management, electrical engineering, and information technology
- PROFESSIONAL DEVELOPMENT AND GRADUATE CERTIFICATES in sales leadership, solar installation, and supply chain management
- ENGLISH LANGUAGE CLASSES
- HIGH SCHOOL COMPLETION COURSES
- AN EMPLOYER-SPONSORED ELECTRICIAN APPRENTICESHIP PROGRAM

MORE THAN
900,000
SKILLED WORKERS

WILL BE NEEDED TO REACH PRESIDENT JOE BIDEN'S 2035 CLEAN ENERGY TARGET.



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WASHINGTON HAS A ROLE TO PLAY

HOW THE BIDEN HARRIS ADMINISTRATION IS PRIORITIZING WORKFORCE DEVELOPMENT

PRESIDENT BIDEN'S BUILD BACK BETTER FRAMEWORK

\$130 BILLION

for workforce development, job training, and access to higher education, all focused on equity to ensure quality jobs are accessible for underserved communities.²⁰

U.S. DEPARTMENT OF COMMERCE'S ECONOMIC DEVELOPMENT ADMINISTRATION

\$500 MILLION "JOBS CHALLENGE"

invests in regional workforce training programs and sector-based partnerships to help unemployed workers build skills and connect to quality job opportunities.²¹

“

Workforce development is a top priority...We are working in partnership with businesses and educational organizations, because working collaboratively is the only way we can ensure that workers are trained in skillsets that businesses actually need and that position America's economy to lead on the global stage... We are working with state and local governments, community colleges, industry associations, and labor unions to get people reskilled and upskilled.

”

- DON GRAVES
DEPUTY SECRETARY,
U.S. DEPARTMENT OF COMMERCE

[CLICK HERE TO LISTEN TO THE BUSINESS FORWARD BRIEFING WITH DEPUTY SECRETARY GRAVES](#)



GOOD GOVERNMENT ON THE FUTURE OF WORK STARTS WITH K-12 EDUCATION

By focusing on research-based initiatives in education, Congress can promote equitable opportunities for students and improve pathways for workers.

Making investments in innovative practices and closing the opportunity gap at the K-12 level would have positive, long-term effects on the efficiency of our labor market — and create an economic advantage down the road.



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