GEORGIA ARTIFICIAL INTELLIGENCE WORKFORCE REPORT
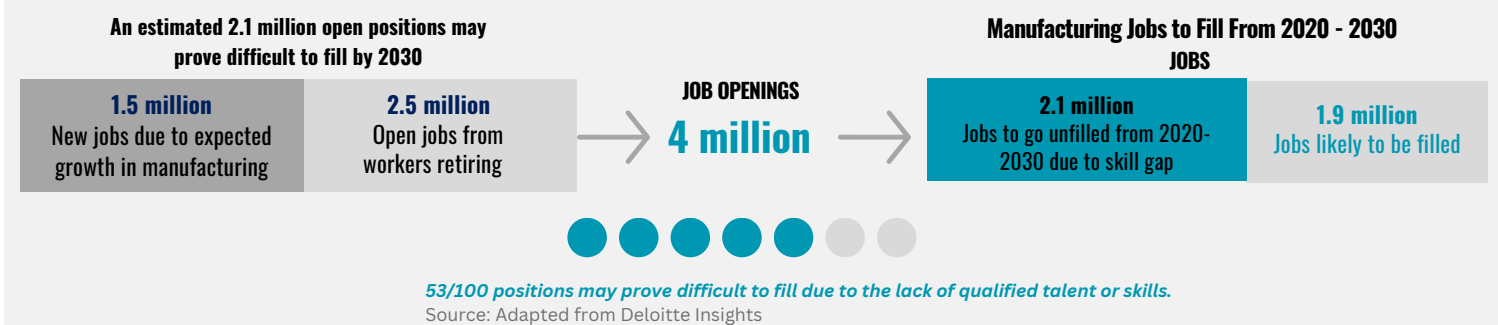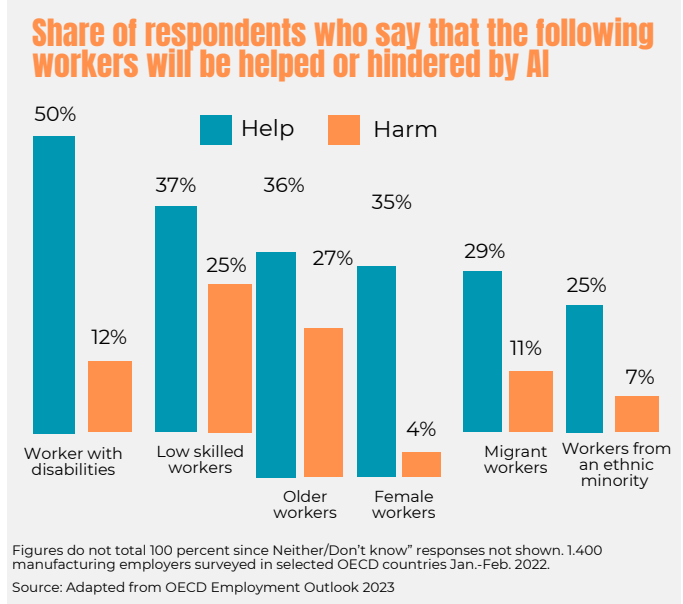## May 2024 - Artificial Intelligence's Impact on Georgia's Jobs and Workforce

TAG-Ed Education Collaborative

GEORGIA AIM Artificial Intelligence in Manufacturing

The manufacturing industry has a rich history of undergoing digital transformation and revolution. Sectors such as automotive, aerospace and defense, food and beverage, and pharmaceutical manufacturing have experienced such transformation. The integration of AI technology has brought about a competitive advantage by reducing operational expenses and increasing overall customer satisfaction. Concerns about job losses have emerged as AI integration in the manufacturing industry.

Many manufacturing workers believe that AI system integration will positively impact the manufacturing sector as a whole. The question of who will benefit or be harmed by AI in the manufacturing industry has been raised. According to a 2023 OECD Employment Outlook survey, more workers will benefit than will be hindered by AI.

Share of respondents who say that the following workers will be helped or hindered by AI

Help / Harm

- Worker with disabilities: 50% / 12%
- Low skilled workers: 37% / 25%
- Older workers: 36% / 27%
- Female workers: 35% / 4%
- Migrant workers: 29% / 11%
- Workers from an ethnic minority: 25% / 7%

Figures do not total 100 percent since Neither/Don't know" responses not shown. 1.400 manufacturing employers surveyed in selected OECD countries Jan.-Feb. 2022.
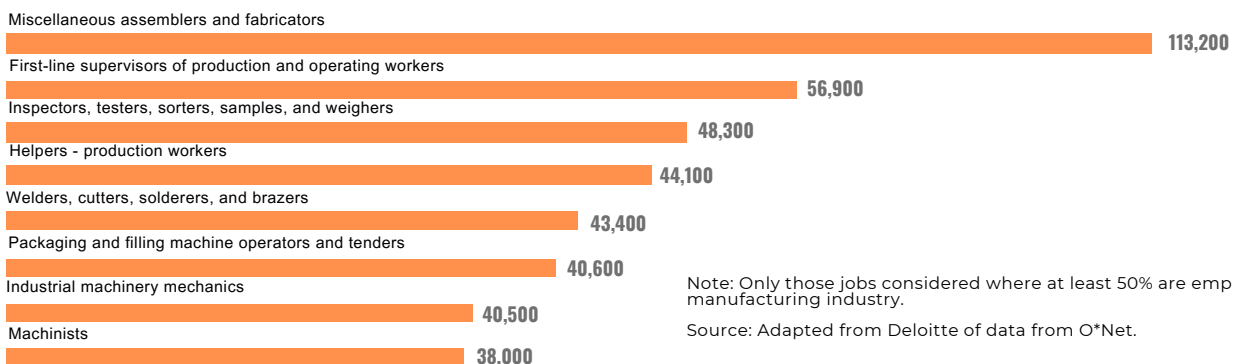Source: Adapted from OECD Employment Outlook 2023

Jobs Eliminated

According to recent data, the integration of AI in manufacturing will not lead to the elimination of jobs. However, the industry is facing a labor shortage due to the difficulty in finding qualified talent to fill future automated roles. By 2030, more than 2 million manufacturing jobs are projected to remain unfilled. This shortage has a negative impact on the nation's capacity to produce essential materials, such as electronics, textiles, metal production, and nuclear submarines. The problem is compounded by lackluster economic development, outsourcing, lost growth prospects, and decreased productivity.

An estimated 2.1 million open positions may prove difficult to fill by 2030

Manufacturing Jobs to Fill From 2020 - 2030
JOBS

| **1.5 million** New jobs due to expected growth in manufacturing | **2.5 million** Open jobs from workers retiring | **JOB OPENINGS** **4 million** | **2.1 million** Jobs to go unfilled from 2020-2030 due to skill gap | **1.9 million** Jobs likely to be filled |

53/100 positions may prove difficult to fill due to the lack of qualified talent or skills.
Source: Adapted from Deloitte Insights

Job Creation Projections

High-demand middle-skill careers such as computer numerical control (CNC) machinists, welders, and maintenance technicians require some level of technical training and/or applied skills. (Deloitte). Although some manufacturing workers may be well equipped to run certain mechanics on the floor, many do not possess the digital savvy needed to properly use specific computer systems and analyze data.

Manufacturing middle-skill occupations with the highest projected job opening during 2019-2029

- Miscellaneous assemblers and fabricators: 113,200
- First-line supervisors of production and operating workers: 56,900
- Inspectors, testers, sorters, samples, and weighers: 48,300
- Helpers - production workers: 44,100
- Welders, cutters, solderers, and brazers: 43,400
- Packaging and filling machine operators and tenders: 40,600
- Industrial machinery mechanics: 40,500
- Machinists: 38,000

Note: Only those jobs considered where at least 50% are employed by manufacturing industry.

Source: Adapted from Deloitte of data from O*Net.

THE TAG SOLUTION: BRIDGING THE GAP TO SUCCESSFUL WORKFORCE SOLUTIONS
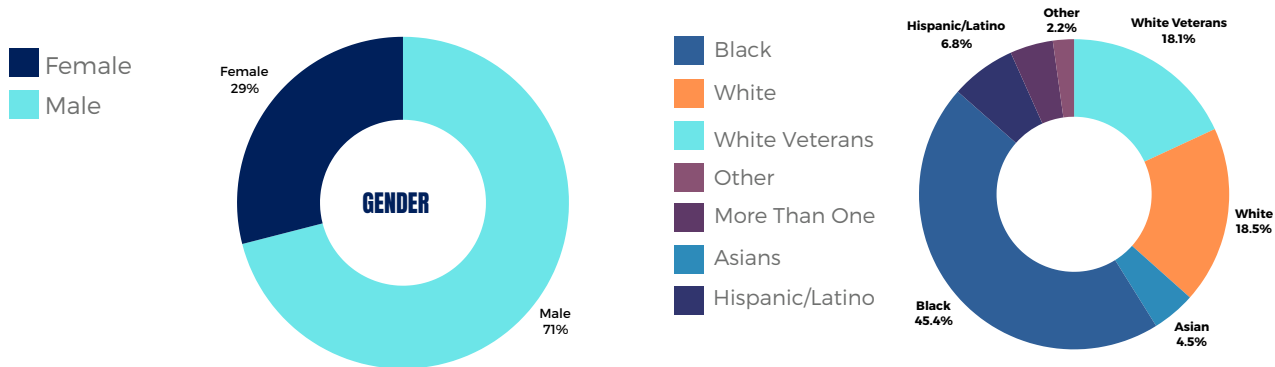
In partnership with the Georgia community and corporate partners, the Technology Association of Georgia's foundation, TAG Education Collaborative, a 501c3 (TAG Ed) is working to help bridge the workforce gaps created by the onset of AI. As recipients of the Georgia AI Manufacturing (GA-AIM) Grant, TAG Ed contributed by accelerating the adoption of artificial intelligence across Georgia's legacy industrial sectors. GA-AIM works to drive AI adoption to lead the next revolution in U.S. manufacturing across all sectors, geographies, communities, and underrepresented constituencies. Our mission is to serve all Georgia residents, including rural residents, women, Black, Indigenous, People of Color (BIPOC), those living with disabilities, and veterans. Historically, these groups have been underrepresented in manufacturing.

TAG Ed provides solutions to the technology workforce by taking a proactive approach through predictive analysis. Our approach includes creating pathways to the tech workforce for upper-level high school students, transitioning career professionals, and mid-level to senior-level tech leaders. One featured program is the Registered Tech Apprenticeship Program, which creates pathways for underrepresented candidates (minorities, women, and veterans) to secure in-demand tech positions through training and job placement.

TAG Filling Tech Talent Pipeline with Diversity in Georgia

Georgia has a vital workforce development ecosystem eligible for tech apprenticeship opportunities.

DIVERSITY AND EQUITY

Legend:
- Female
- Male

GENDER
- Female 29%
- Male 71%

Legend:
- Black
- White
- White Veterans
- Other
- More Than One
- Asians
- Hispanic/Latino

- Hispanic/Latino 6.8%
- Other 2.2%
- White Veterans 18.1%
- White 18.5%
- Asian 4.5%
- Black 45.4%

WAGE DATA

$44.5k — Average income prior to registered tech apprentice participation

$68.5k — Average income registered tech apprentice participation

$102.9k — Average retention income after registered tech apprentice participation

$3.1M*
Average lifetime earnings increase due to registered **tech apprenticeship** in Georgia

*Based on a 25-year work projection

Source: Adapted from Apprent.org