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Goodskills Career Builder

Goodwill of Western New York

NEW YORK STATE OF OPPORTUNITY. Empire State Development

Research Brief #6

Manufacturing: The Backbone of Innovation and Buffalo's Future

November 2023

This is the sixth brief in a series produced by Goodwill of Western New York, in partnership with the University at Buffalo Regional Institute (UBRI). The research is intended to promote data-driven decision-making in workforce development that benefits underrepresented, underserved populations in the Western New York region. In support of Goodskills Career Builder, this brief is part of a collaborative effort to expand access to higher-paying careers for all individuals. It highlights the benefits and potential earnings for careers in manufacturing in an effort to address the persistent hiring challenges that regional employers face, while cultivating a diverse and inclusive regional workforce. Funding for this brief comes from a $25 million Build Back Better Regional Challenge award to the region by the US Economic Development Administration.

Context

For students graduating high school, a college degree can seem like the only pathway to an exciting, higher-paying career. They may not be aware that manufacturing offers similar opportunities. While perceptions are slowly changing, outdated notions of manufacturing as "dirty," "low paying," "dead-end," and "hard physical labor" persist, exacerbating industry challenges such as hard-to-fill jobs, skills gaps, and low workforce diversity. More than three-quarters of business leaders in WNY say there are not enough workers with appropriate training.[1] This underscores the importance of initiatives such as Goodskills Career Builder (GCB), an industry-driven program that recruits students for career pathways in modern, tech-driven manufacturing environments and equips them with the skills that employers seek.

Earning a college degree can lead to higher wages, and many professions require a degree, but there are many higher-paying career pathways that do not. As the cost of college continues to rise and more employers drop degree requirements in favor of skills-based hiring, more individuals are considering alternative pathways to higher-wage careers like manufacturing. These "new-collar" jobs typically require technical skills but not a four-year degree.[2] A GCB graduate with work experience in manufacturing can earn a salary that is comparable or even higher than that of a college graduate. Because GCB training is free and only four weeks long, total student loan debt and lost earnings are minimal compared to the typical college graduate. This research-driven brief unpacks the opportunities and benefits of a career in manufacturing to break down stereotypes and demonstrate why it is a compelling career choice.

Goodskills Career Builder offers a debt-free pathway to a higher-paying job and career.

	Goodskills Career Builder		4-Year College Degree
	Enroll in GCB for **free.** Complete training in **4 weeks.** *Start a manufacturing job paying $37,500, on average.*	Year 1	Enroll in college. Take on **student loans** to pay tuition and fees.
	Continue working and gaining experience. **Connect with a career coach for up to three years.**	Years 2 and 3	Continue attending classes, paying and taking on student loans. **Work full-time over the summers.**
	Continue working. **Prepare to apply for a job promotion.**	Year 4	Continue with classes. Graduate and **apply for first full-time job.**
	Promotion to a next-step role paying $57,100, on average	Years 5 and 6	Work in entry-level role earning $52,100 on average. **Begin paying off student loans.**
	With 7+ years of experience, qualify for a job paying $74,000, on average.	Years 7+	Continue working and paying off student loans.
Total earnings over 7 years	$298,575		$156,300
Median Student Loan Debt	$0		$21,511
Lost earnings *(while in school and not working)*	$2,461		$88,608

Sources: See footnote 3 in Data Sources and Notes.

Manufacturing offers economic stability, career mobility, and a tech-intensive work environment.

Manufacturing offers stable jobs with family-sustaining wages and employee benefits. The average annual starting wage of a GCB graduate trained for manufacturing is $38,500.[4] This exceeds a living wage by $5,000 per year.[5] The typical GCB graduate is placed in a full-time job, more than 80% with benefits such as health insurance, paid leave and/or an employer-sponsored retirement plan.[6] Employee benefits in manufacturing are valued at nearly $18,378 per job or 26% of wages.[7] Worker turnover is significantly lower in manufacturing than across all industries in WNY.[8] This is an indicator of worker and employer satisfaction and the opportunities to grow within a company.

There is broad opportunity in manufacturing for upward career mobility. With more than 1,540 manufacturing firms of all sizes across WNY,[9] workers can advance their careers and earn higher wages as they deepen and expand their skills. Many higher-paying jobs in manufacturing are accessible to workers with skills and experience without a four-year college degree.

Diversity and inclusion are valued by an increasing number of manufacturing companies, including the dozens actively partnering with GCB to recruit and hire nontraditional candidates from underserved communities. The list includes global manufacturers such as PCB Piezotronics and Fresenius-Kabi to industry leaders like Tapecon and Safetec, and family-owned manufacturing companies like Rosina Foods.

Investments in manufacturing innovation are growing tech-related manufacturing jobs, or "new collar" jobs, involving high-tech skills that support automated production processes involving robots, cobots and computers. Across WNY, manufacturing has the third largest number of tech jobs and is one of five subsectors that support the rapidly growing clean energy sector.[10] The number of manufacturing employers that look for digital skills has increased by about 300% over the past decade.[11]

Manufacturers increasingly look for digital skills in filling career-builder jobs and pay more to workers who have them.

	Jobs Postings April 2022-April 2023	Median Advertised Salary	Change in Job Postings since April 2012-2013
Basic Digital Skills	847	$40,600	301%
Advanced Digital Skills	412	$42,600	292%

Source: Lightcast, Job Posting Analytics, April 2022-April 2023 and April 2012-April 2013, WNY.

Career-builder jobs in manufacturing pay nearly $10,000/ year more than a minimum wage annual salary and $5,000 more than a living wage.

$29,536
Minimum Wage Annual Salary
($14.20 per hour)

$33,512
Annual Living Wage in WNY
(1 Adult, 0 Children)

$38,500
Jobs in Manufacturing Median Advertised Wage
(April 2022 to April 2023)

Source: NYSDOL, MIT Living Wage Calculator, Lightcast, Job Posting Analytics, April 2022-April 2023.

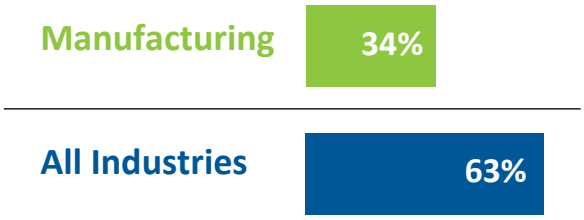
With experience and skills, many jobs in manufacturing are accessible without a four-year degree.

Manufacturing Jobs by Years of Experience

	0-1 years	5-6 years	7+ years
Job Postings (April 2022 to April 2023)	2,271	1,898	1,129
Median Advertised Salary	$39,552	$73,088	$125,200
% Jobs Accessible Without a 4-year Degree	57%	27%	20%

Source: Lightcast, Job Posting Analytics, WNY, NAICS 31-33, April 2022 to April 2023. Accessible jobs include those with a minimum education level of high school or an associate's degree.

The low turnover rate in manufacturing benefits workers and companies, and supports teamwork, efficiency, and innovation.



Source: Lightcast, Industry Table, WNY, 2022.

Goodskills Career Builder offers skills training and career coaching that moves individuals beyond minimum wage work into higher-paying jobs along a career pathway.

With work readiness and technical training, an individual can begin a higher-paying career in manufacturing and move along a career ladder, filling critical roles for employers and growing their wages along the way. There is a high demand for manufacturing jobs in WNY, with 4,535 postings in the first four months of 2023—up by 35% from 2019.[12]

Career-builder jobs can serve as springboards to more specialized and higher-level roles such as electromechanical assemblers and industrial machinery mechanics, which will grow by 10% or more in the coming year. Many manufacturing jobs such as these require no education beyond high school, but rather technical skills and experience. These jobs can be found at companies across the region, from the urban core to rural counties, supporting a variety of manufacturing sectors involved in producing new food products, electric vehicles, solar panels and computerized sensors for automobiles, medical devices, aerospace and more.

Across the region, more than 1,990 work as an electromechanical assembler. With 200+ annual job postings in WNY, the regional demand for this role is nearly three times the national average. These individuals are the backbone of production, responsible for following technical blueprints and using electronic or automated production equipment to perform assembly, repairs, and modifications. The top 10% earn nearly $60,000 a year.

With long-term experience, many advance into roles as industrial machinery mechanics where they are responsible for maintaining the operation and efficiency of high-tech production equipment. This is another role where double-digit growth is projected over the next 10 years. Depending on experience, skills and company, workers can expect to earn from $47,000 to $77,000 a year.

With a combination of leadership and technical skills, industrial machinery mechanics can increase their earnings potential to nearly $100,000 by transitioning to a role where they supervise production workers. There are nearly 900 job postings annually for this role. It was the 7th most common job posting in manufacturing in WNY between April 2022 and April 2023.[13]

Potential Manufacturing Career Pathway for GCB Graduates Who Start as an Assembler

		Potential next-step roles →	→
	From **Assembler** to **Electromechanical Assemblers**	**Industrial Machinery Mechanics**	**First-Line Supervisors of Production/ Operating Workers**
ENTRY			
Typical Education	High School	High School	High School
Work Experience	None	Less than 5 years	Less than 5 years
OPPORTUNITY			
Jobs, 2022	1,844	1,645	3,003
Example of Hiring Employers	PCB Piezotronics	Saint Gobain, Rosina Foods	Harmac, Fresenius-Kabi, Ring Precision
Projected Growth Rate (next 10 yrs)	19%	10%	1%
Projected Annual Job Openings	271	168	317
EARNINGS POTENTIAL			
Entry-Level	$30,322	$47,775	$48,583
Median	$35,555	$59,815	$62,253
Experienced	$44,847	$74,569	$78,517
Top 10%	$59,333	$77,890	$97,708
TOP TECH SKILLS	Soldering Electrical Wiring Electrical Components Blueprinting Hand tools	Machinery Preventive Maintenance Hydraulics Production Equipment Hand Tools Mechanics Welding	Continuous Process Improvement/ Lean Manufacturing Auditing Manufacturing Processes Workflow Management Warehousing

Sources: Lightcast, Job Postings Analytics and Occupational Data, 2022. Entry level wages reflect those in the 25th percentile, while experienced wages reflect those in the 75th percentile. SOC Codes used are: Miscellaneous Assemblers and Fabricators (51-2098); Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers (51-2028); Industrial Machinery Mechanics (49-9041); First-Line Supervisors of Production and Operating Workers (51-1011).

Goodskills Career Builder offers industry-driven training that prepares job seekers to succeed in manufacturing.

Since launching in September 2021, Goodskills Career Builder has trained more than 261 individuals who are ready to begin a career in manufacturing or tech.[14] A diverse group, an estimated 75% are people of color and most face several barriers to training and higher-paid work such as lack of flexible, affordable transportation, need for childcare, and/or benefit cliffs.[15] Dozens of GCB graduates have launched careers at some of the most innovative, high-tech and fast-growing manufacturing companies in the region. Features of GCB that contribute to success for job seekers and employers include:

A research-based training initiative that is responsive to industry needs, drawing from models that work but tailored to the needs of WNY's workforce and economy.

Intensive intake and assessment process. This upfront investment ensures that individuals are aware of today's job opportunities in manufacturing and have interest in starting a career in this industry.

Employer partnerships, with industry-driven curriculum that prepares individuals for work in high growth, innovative sectors such as manufacturing and tech. GCB creates on-ramps to these sectors and economic opportunity across WNY with program locations in Erie, Niagara and Chautauqua counties.

Free training for in-demand jobs with career pathways. This ensures that participants are connected with jobs offering good starting wages, benefits and career advancement opportunities.

Wraparound services and career coaching for three years. This removes barriers to work and training and ensures that participants have someone to turn to for problem-solving and advice for job retention and career development.

Investments in women, people of color and other underrepresented populations with outreach and recruitment in underserved communities. This expands employer access to untapped talent pools, while cultivating a stronger, more diverse, and inclusive regional workforce.

Tracking outcome data to continuously improve the program for participants and employers, enabling GCB to reach more individuals who could benefit from training.

Data Sources and Notes

Page 1: [1]Siena College Research Institute: 16th Annual Upstate New York Business Leader Survey, Crosstabs, 2023. Across NYS, ninety-one percent of manufacturers say there is not an ample supply of appropriately trained workers to meet their employment needs. [2]See for instance, Leighton, Amy, "New-Collar Workers and the Future of Skills-Based Hiring," Career Resources, LLC, Updated June 2023, and Bubenik, Scholley, "New-Collar Workers- Who Are They And How Are They Contributing To Our Labor Shortage?" FORBES, Jan. 24, 2019. [3]Wages were estimated using median advertised salaries in job posting data in WNY, available through Lightcast, Job Posting Analytics, April 2022 to April 2023. The wage associated with the next-step role reflects postings for jobs in manufacturing requiring five to six years but no college degree. Lightcast Job Posting Analytics was also used to estimate wages for a bachelor's degree graduate with less than one year of experience. Foregone earnings assume students work full time for three months per year while in school and earn the minimum wage. Median debt reflects federal student loans only, available through College Scorecard, updated in April 2023 for nine bachelor's degree granting colleges and universities in WNY. [4]Lightcast, Job Posting Analytics, April 2022 to April 2023. Reflects median advertised salary for GCB manufacturing jobs. [5]Calculated for a single person household in WNY. MIT's Living Wage Calculator was used to determine the living wage for each of the region's fives counties. Household data from the 2021 American Community (five-year estimates) was used to calculate a weighted regional living wage. [6]Estimate provided by Goodwill on July 6th 2023, based on the latest data gathered from GCB graduates about their current employment. [7]Lightcast, Industry Table, WNY, 2022. [8]Lightcast, Industry Table, WNY, 2022. [9]Lightcast, Industry Table, WNY, 2022. [10]See TechBuffalo and University at Buffalo Regional Institute, "Strategies for Building Buffalo Niagara's Tech Workforce," 2022 (page 12) and University at Buffalo Regional Institute, "Clean Energy Workforce Assessment for Western New York," 2019 (pages 12-13, 18, and 20). [11]Lightcast, Job Posting Analytics, April 2012 to April 2013 and April 2022 to April 2023. Findings reflect trends in GCB manufacturing job postings for basic digital skills (defined as Microsoft Office, Excel, Word, Outlook, Email, and Spreadsheets) and advanced digital skills (defined as Microsoft Access, Microsoft PowerPoint, SQL, Programming, and Operating Systems). Page 3: [12]Lightcast, Job Posting Analytics, Jan. to April 2019 and Jan. to April 2023. [13]Lightcast, Job Posting Analytics, April 2022 to April 2023. Page 4: [14]Reflects graduates as of July 6th across program sites in Buffalo (199), Niagara Falls (29) and Jamestown (33). [15]Goodwill of Western New York and University at Buffalo Regional Institute, State University of New York at Buffalo, School of Architecture and Planning, January 2023, "Training for a Diverse Workforce in Western New York: The True Costs and Benefits."

Learn More About Goodskills Career Builder

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