2021

ADVANCED MANUFACTURING LABOR MARKET REPORT

THE COLUMBIA-WILLAMETTE WORKFORCE COLLABORATIVE
Working together to develop and support regional talent

Clackamas Workforce Partnership

workforce SOUTHWEST WASHINGTON

work systems

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INTRODUCTION

IN 2016, THE COLUMBIA-WILLAMETTE WORKFORCE COLLABORATIVE (CWWC) published its first data report about the Advanced Manufacturing industry. The 2016 report affirmed Advanced Manufacturing as a high growth industry in the Portland-Vancouver Metro Area and led the Collaborative to revise the 2014 Manufacturing Workforce Plan to establish new goals for 2016–2018. A second report in 2018, was used to create new goals for the 2022–2024 Manufacturing Workforce Plan.

Between 2015 and 2019, Advanced Manufacturing has added over 5,800 jobs, reaching some of the fastest growth rates for the sector in the 21st century. The sector was initially hit hard during the COVID-19 pandemic, losing nearly six percent of its employment base during 2020. Although jobs are returning, the sector's growth in 2021 was slightly smaller than the overall economic growth in the region.

A broad array of occupations experience considerable demand in Advanced Manufacturing, including engineers, machinists, managers, quality assurance techs, truck drivers, and software developers. The jobs being added in the Manufacturing industry are high wage, averaging nearly $32 per hour. Demand, however, far outpaces the current available skilled workforce in the region.

Advanced Manufacturing represents one of the most demographically diverse sectors in the Portland-Vancouver Metro Area. Age, however, remains a major concern for employers—nearly one-in-four of the sector's workforce is 55 or older and set to retire in the next decade. While job growth is expected to slow over the next decade, looming retirements and career changes mean a steady stream of workers will be needed to fill available jobs.

Utilizing the labor market information found in this data report, the CWWC will hold a series of convenings with industry and stakeholders to again update the Manufacturing Workforce Plan and create new goals for 2022–2025. Updating the Manufacturing Workforce Plan will allow for the identification of common industry workforce challenges, the opportunity to coalesce around shared goals and resources, and align the efforts of the public workforce system to make a greater overall impact for the Manufacturing sector in our region. During the convenings around the 2019–2021 plan update, companies identified several areas of focus for revised Manufacturing Workforce Plan, indicating a strong emphasis be placed on making manufacturing a career of choice for emerging workers, connecting manufactures to the right candidates now, and strengthening the manufacturing industry throughout our region. The CWWC will work with employers and industry experts throughout the three-year plan, utilizing their skills and abilities to increase opportunities for industry exposure for youth and the individuals who influence their career decisions, identify, and allocate resources for training and work readiness skills, advance workplace diversity, and strengthen the manufacturing industry through strategic partnerships.

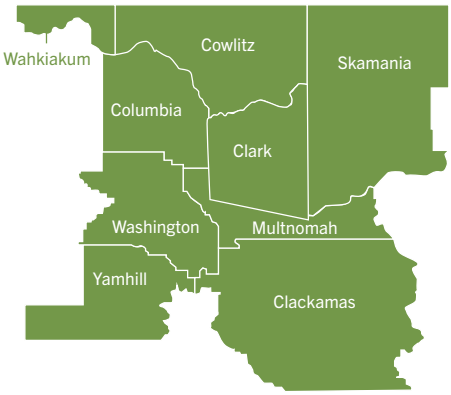
The Columbia-Willamette Workforce Collaborative is committed to supporting the needs of the industry by ensuring that a skilled labor pool is ready to fill open positions now and in the future.

ABOUT THE COLUMBIA-WILLAMETTE WORKFORCE COLLABORATIVE

The Columbia-Willamette Workforce Collaborative (Collaborative) is a partnership between Clackamas Workforce Partnership, Workforce Southwest Washington and Worksystems: the three Workforce Development Boards covering the Portland-Vancouver Metropolitan Area. The Collaborative delivers a unified approach to serving industry, supporting economic development, and guiding public workforce training investments to better address the needs of our combined labor shed. We know that people are willing to travel throughout the region for the best opportunities and that employers need the most qualified workers regardless of where they live. By working together, we can cultivate our regional talent pool and build the foundation for a strong economy.

ABOUT THE GEOGRAPHIES

Throughout this report, data is often provided for all nine counties found on the map at right. These nine counties, when combined, are referred to as the Portland-Vancouver Metro Area (PVMA). The PVMA is a combination of the seven-county Portland-Vancouver-Hillsboro Metro Statistical Area (MSA) and two additional counties served by the Collaborative—Cowlitz and Wahkiakum counties in Southwest Washington.



Columbia, Yamhill, and Skamania counties are not a part of the Collaborative's geography, however, remain an important part of this report as they are included with the Portland MSA. In instances where data is not available for the nine-county region combined, data instead is provided for the seven-county MSA.

ABOUT THIS REPORT

The Collaborative is focused on aligning and investing resources to support the workforce needs of four sectors: Advanced Manufacturing, Healthcare, Technology, and Construction. Sectors are chosen based on factors such as their economic significance to the region, current number of openings and job growth projections, average wages that support self-sufficiency, and career ladder opportunities across the skill continuum. By examining labor market intelligence (such as the data contained in this report) and vetting the information with business partners, we are able to better understand industry trends, identify current and emergent workforce needs, and develop customized solutions for each sector.

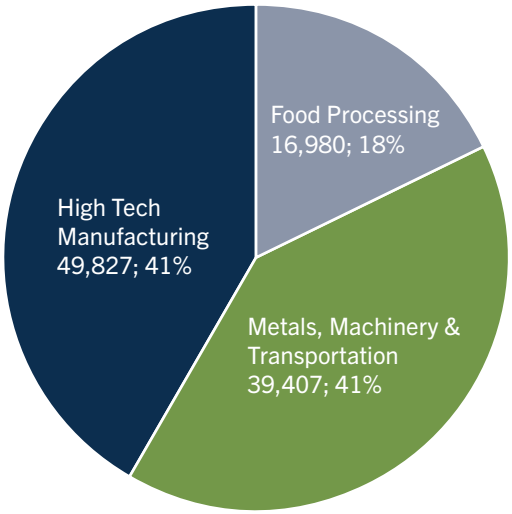
OVERVIEW

With nearly 100,000 jobs and a payroll of $10.1 billion, Advanced Manufacturing accounts for 8 percent of the greater Portland region's private sector employment and 11 percent of payroll.

The region's economy is highly dependent on the manufacturing sector. In 2020, the Portland Metro Area ranked tenth nationally among the nation's largest metro areas in the proportion of its GDP generated by manufacturing. The goods export value increased 48 percent between 2015 to 2020.

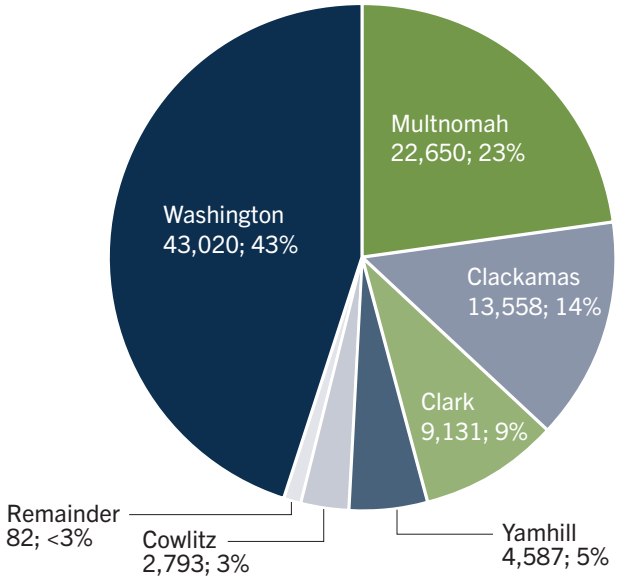
The Advanced Manufacturing sector includes high tech, metals, machinery, transportation equipment, and food processing.

FIGURE 1: Advanced Manufacturing Employment by Component, Greater Portland Region, 2020



Source: EMSI

FIGURE 2: Advanced Manufacturing Jobs by County, Greater Portland Region, 2021



Source: EMSI

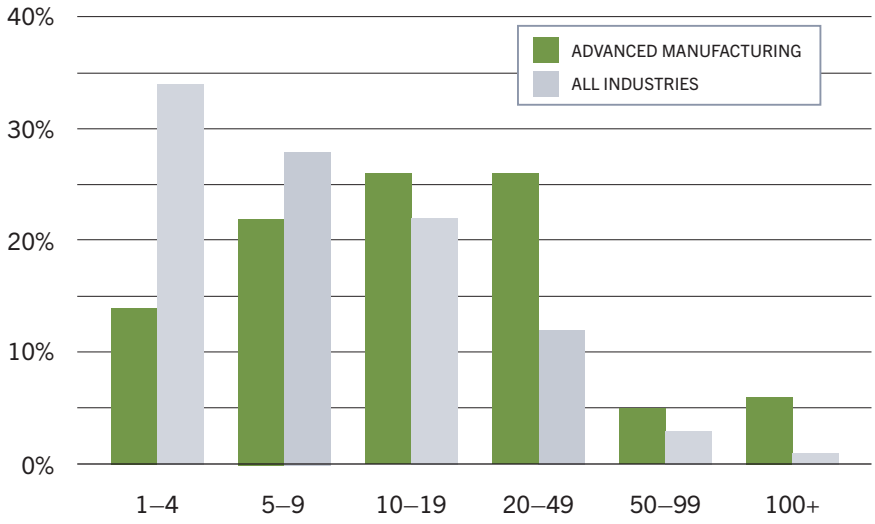
Nearly half of the region's Advanced Manufacturing jobs are located in Washington County, due largely to Intel.

Multnomah County has a small concentration of jobs relative to the overall size of its economy.

Clackamas County, with 13,558 jobs, accounts for 14 percent of the region's employment, and Southwest Washington adds 12,193 jobs (13%).

Companies tend to be clustered along major road, water, and rail transportation corridors.

FIGURE 3: Firms by Class Size, Advanced Manufacturing, Greater Portland Region, 2021



Source: EMSI

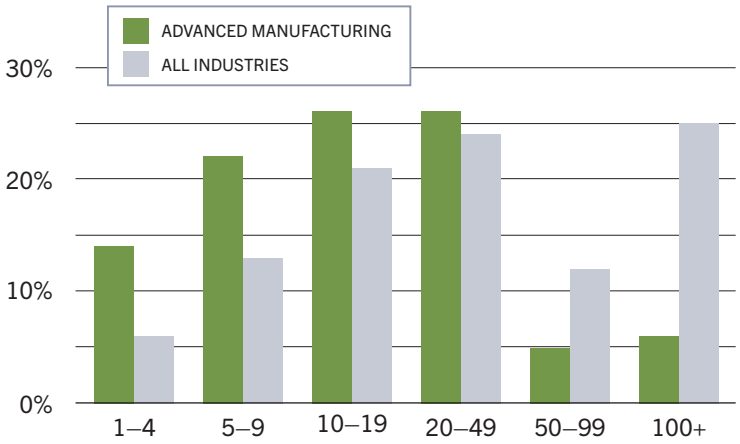
The sector has more large firms and fewer smaller firms compared to the overall economy.

The average firm size is over three times larger than the average company in the region: 33 employees per company versus 15 across all industries.

One quarter of the region's Advanced Manufacturing employment is in establishments employing more than 250 people.

Nearly 90 percent of the region's Advanced Manufacturing employment works in establishments employing fewer than 50 workers.

FIGURE 4: Employment by Class Size, Advanced Manufacturing, Greater Portland Region, 2021



Source: EMSI

MAJOR EMPLOYERS

TABLE 1: Major Employers, Advanced Manufacturing, Greater Portland Region, 2021

DAIMLER TRUCKS NORTH AMERICA	ROCKWELL COLLINS
INTEL	RESER'S FINE FOODS INC
COLUMBIA MACHINE	EVRAZ OREGON STEEL ROLLING
WAFERTECH LLC	NEIL JONES FOOD CO
TEKTRONIX INC	COLUMBIA STEEL CASTING CO INC
TTM TECHNOLOGIES GROUP	FLIR SYSTEMS INC
WESTERN STAR	FRANZ BAKERY
SEH AMERICA INC	OPTIMIM
HUNTAIR INC	OREGON IRON WORKS INC
MAXIM INTEGRATED PRODUCTS	PLANAR SYSTEMS INC

Source: EMSI

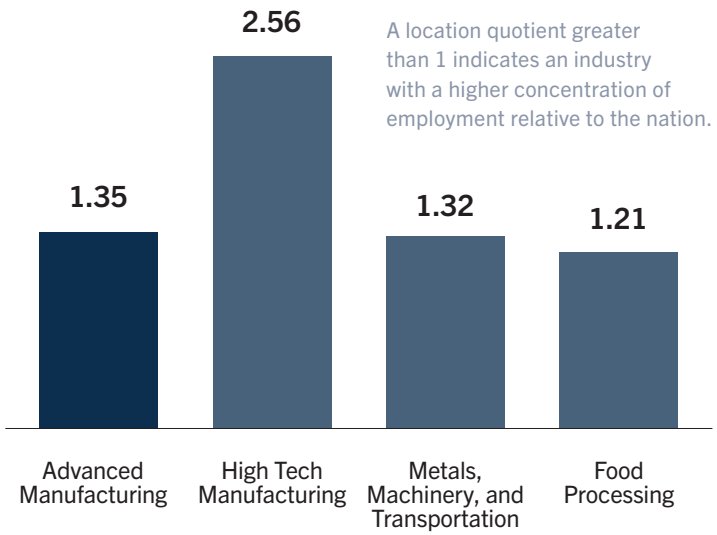
Daimler and Intel are the largest advanced manufacturing private-sector employers in the region.

Neither company is headquartered in the region. Intel's Washington County campuses comprise the company's largest and most advanced operations in the world. Daimler's Portland campus serves as the company's North American Headquarters. It is the leading heavy-duty truck manufacturer.

The region's Advanced Manufacturing firms produce a wide variety of products including semiconductors, streetcars, engine parts, electrical vehicle chargers, and oscilloscopes.

LOCATION QUOTIENTS

FIGURE 5: Location Quotients Advanced Manufacturing, Greater Portland Region, 2020



Source: EMSI

Location quotients are used to measure a sector's employment concentration in an area. A figure greater than one indicates a higher concentration of employment relative to the nation.

Advanced Manufacturing comprises a larger share of employment in the greater Portland region compared to the U.S. due primarily to the high tech component, where employment is three times as concentrated as the nation.

The greater Portland region has a competitive advantage in Advanced Manufacturing and is a net exporter of goods, driven by computer and electronic products, and metals.

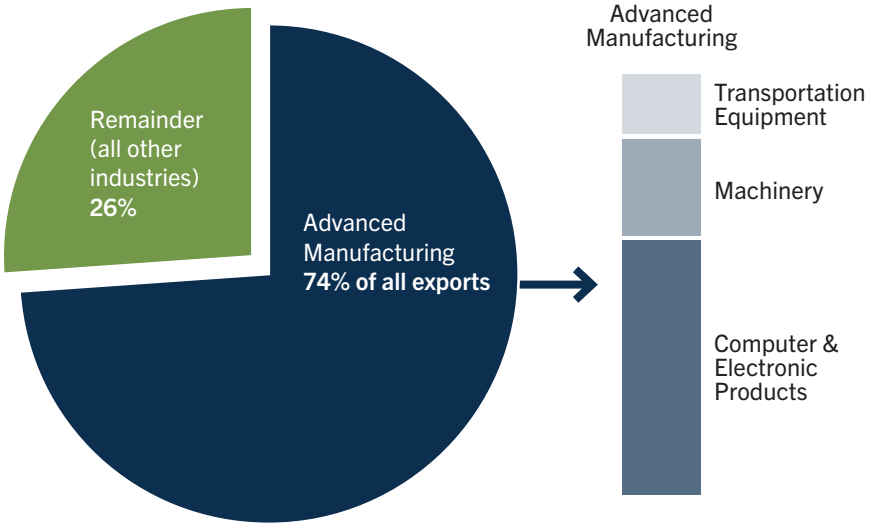
EXPORTING

Exports remain a critical component of the region's economy. In 2020, Portland was the tenth largest exporter among U.S. metro areas.

Advanced Manufacturing accounted for 74 percent of the Portland MSA's total exports.

Between 2013 and 2018, the metro area's Good Export Value grew by 58 percent. During that period, the value of semiconductors and other electronic component exports grew by nearly 120%.

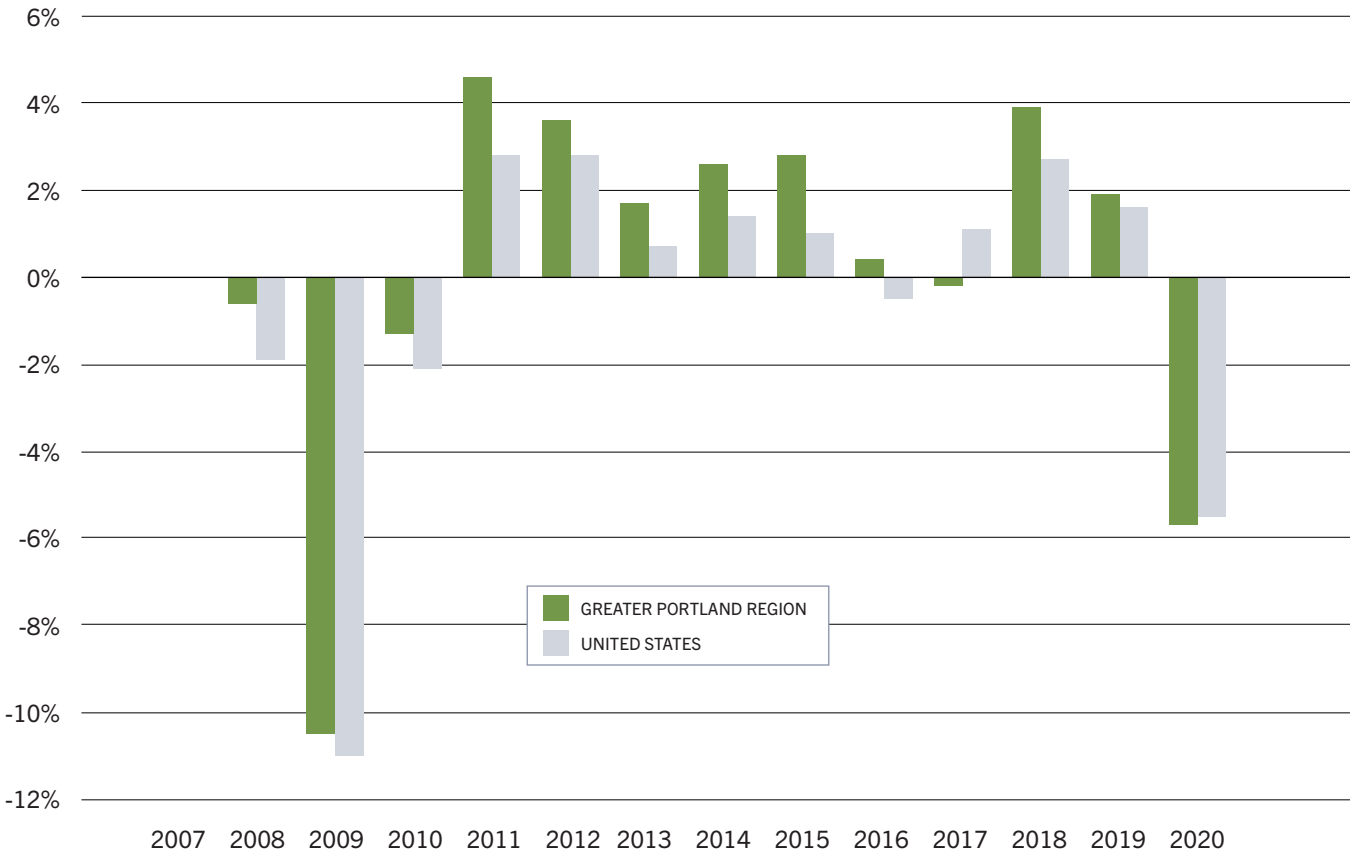
FIGURE 6: Exports, Greater Portland Region, 2020



Source: International Trade Administration

EMPLOYMENT TRENDS

FIGURE 7: Advanced Manufacturing Annual Growth Rates Greater Portland Region vs. United States, 2008-2020



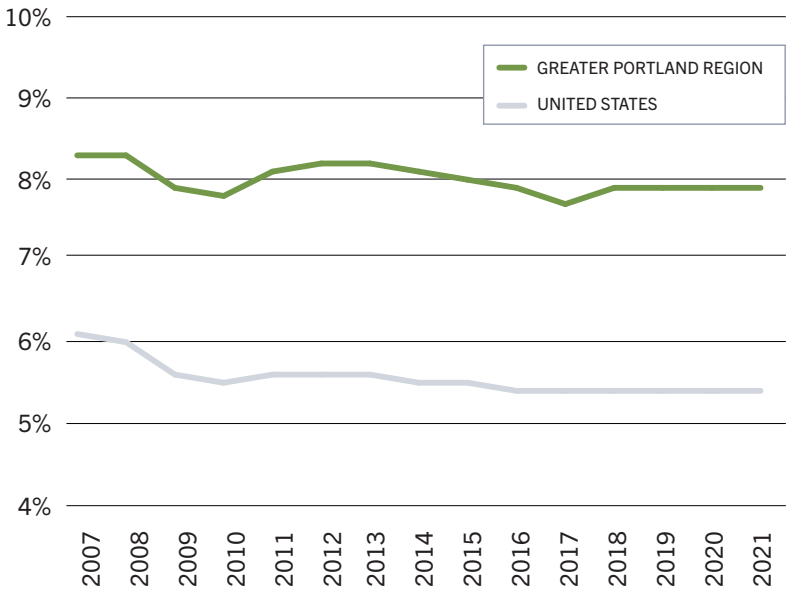
Source: EMSI

Advanced Manufacturing is a cyclical industry, both locally and nationally.

The Advanced Manufacturing sector in the greater Portland region consistently outperforms the nation.

The sector was hit hard during the COVID-19 economic crisis, losing nearly 6 percent of its employment base during 2020. The overall job loss for the regional was 7.1%.

FIGURE 8: Advanced Manufacturing's Share of Employment Greater Portland Region vs. United States, 2007–2021

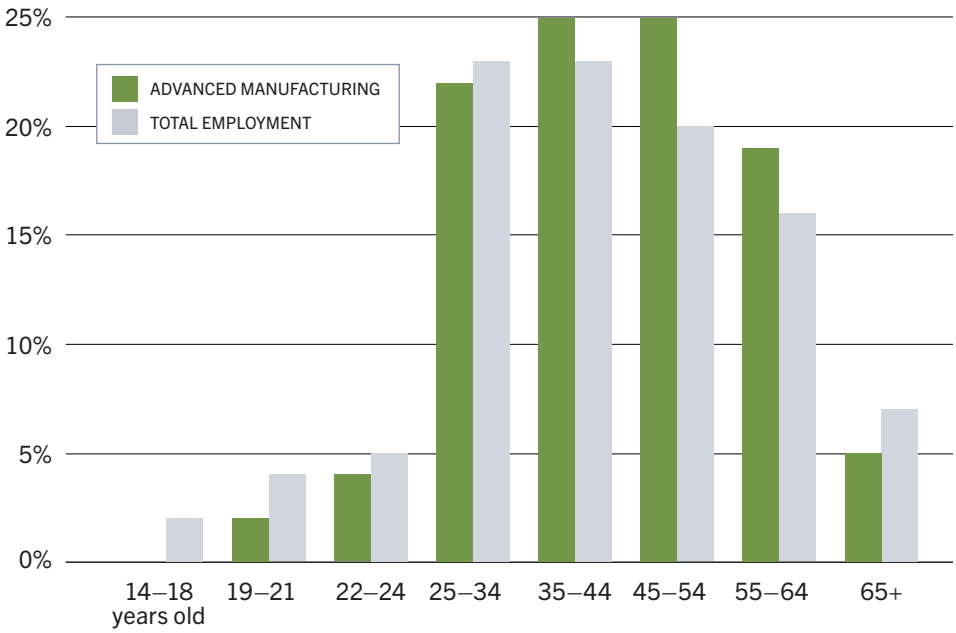


Source: EMSI

Although Advanced Manufacturing is declining as a share of total employment, the greater Portland region continues to have a larger share compared to the nation.

CHARACTERISTICS OF WORKFORCE

FIGURE 9: Advanced Manufacturing Employment, by Age, Greater Portland Region, 2021



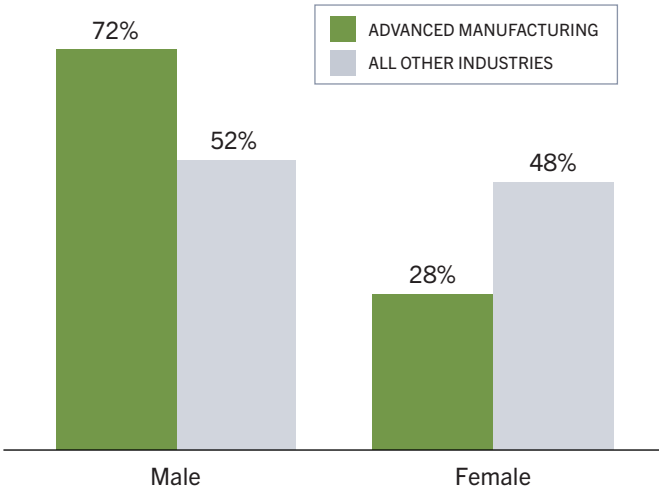
Source: EMSI

Nearly half of the region's Advanced Manufacturing workforce is 45 years or older.

The workforce is aging. As aging workers retire, employers will need to accelerate hiring to meet demand. COVID-19 accelerated retirements.

Youth employment (14-24 years) is half that of the overall economy (6% vs. 11%).

FIGURE 10: Advanced Manufacturing Employment, by Sex, Greater Portland Region, 2021



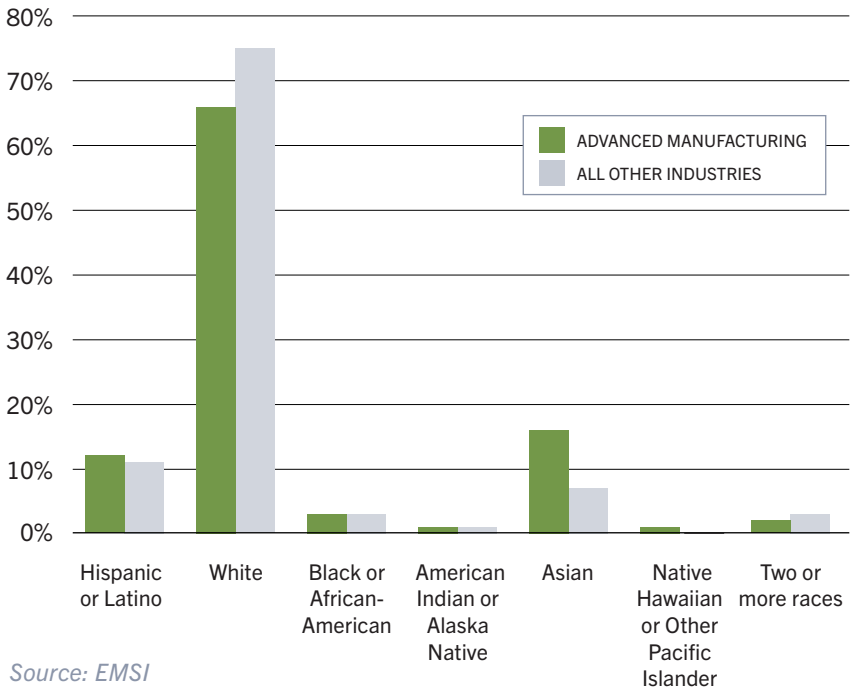
Source: EMSI

The Advanced Manufacturing sector is overwhelmingly male; 72 percent of the workforce compared to 52 percent across all other industries.

People who identify as White make up the vast majority of the Advanced Manufacturing workforce (66%); slightly less than the workforce as a whole (75%).

People who identify as Asian are more than twice as likely to work in Advanced Manufacturing than in other industries.

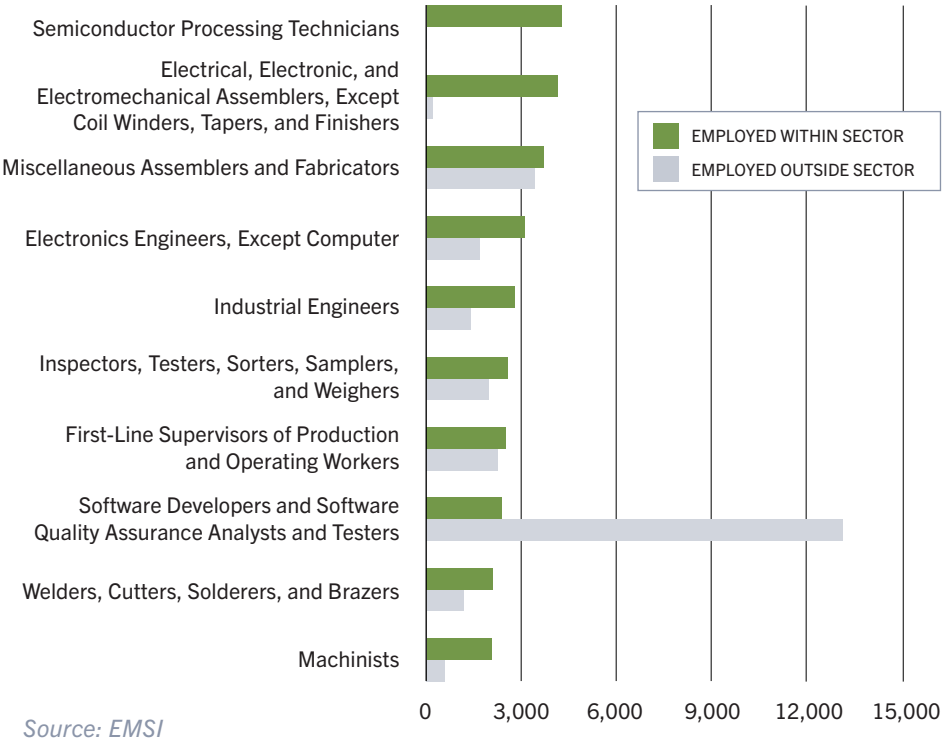
FIGURE 11: Advanced Manufacturing Employment, by Race and Ethnicity, Greater Portland Region, 2021



Source: EMSI

OCCUPATIONS

FIGURE 12: Advanced Manufacturing Occupations within Sector vs. Outside of Sector, Greater Portland Region, 2021



Source: EMSI

Approximately 375 occupations are found within the Advanced Manufacturing sector.

The 10 largest occupations account for 30 percent of total employment.

The two largest occupations within Advanced Manufacturing are unique to the sector and are not generally found elsewhere in the economy.

TABLE 2: Projected Growth, Portland Tri-County Region, 2019-2029

OCCUPATION	2019	2029	PERCENT CHANGE
Semiconductor Processing Technicians	3,680	3,830	4.1%
Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	4,041	4,293	6.2%
Miscellaneous Assemblers and Fabricators	11,877	11,646	-1.9%
Electronics Engineers, Except Computer	4,982	5,617	12.8%
Industrial Engineers	3,487	4,155	19.2%
Inspectors, Testers, Sorters, Samplers, and Weighers	3,460	3,155	-8.8%
First-Line Supervisors of Production and Operating Workers	3,708	4,056	9.4%
Software Developers	12,545	16,688	33.0%
Welders, Cutters, Solderers, and Brazers	2,509	2,807	11.9%
Machinists	2,100	2,337	11.3%
Food Batchmakers	1,798	1,984	10.3%

Source: EMSI

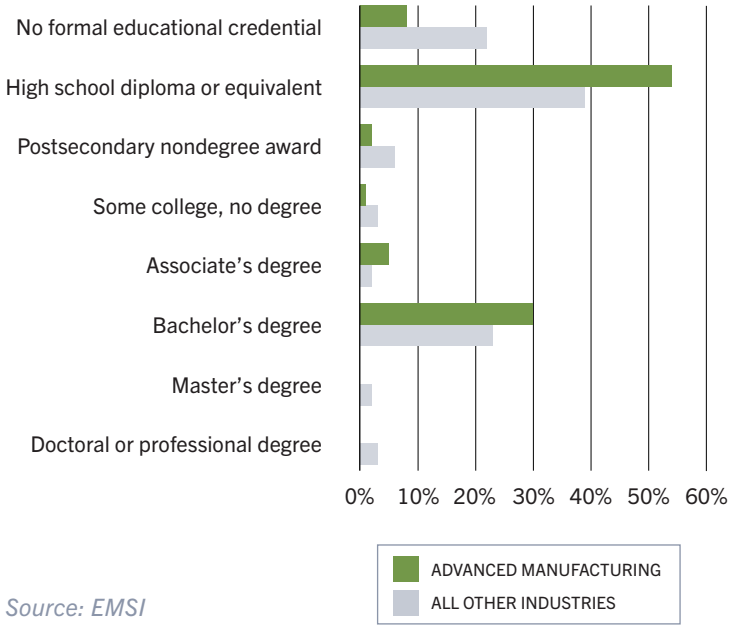
TABLE 3: Largest Occupations in Advanced Manufacturing, Greater Portland Region, 2020

DESCRIPTION	2020 SECTOR EMPLOYMENT	% OF SECTOR EMPLOYMENT	2020 MEDIAN WAGE	% OF MEDIAN WAGE, ALL OCCUPATIONS	LOCATION QUOTIENT	EDUCATION LEVEL
Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	4,153	4.3%	$18.48	80.0%	1.83	High School Diploma or Equivalent
Electronics Engineers, Except Computer	3,091	3.2%	$42.51	184.0%	4.57	Bachelor's Degree
First-Line Supervisors of Production and Operating Workers	2,508	2.6%	$31.56	136.6%	0.96	High School Diploma or Equivalent
Industrial Engineers	2,793	2.9%	$44.65	193.3%	1.75	Bachelor's Degree
Inspectors, Testers, Sorters, Samplers, and Weighers	2,559	2.7%	$23.19	100.4%	0.99	High School Diploma or Equivalent
Machinists	2,045	2.1%	$25.52	110.5%	0.89	High School Diploma or Equivalent
Miscellaneous Assemblers and Fabricators	3,696	3.8%	$17.47	75.6%	0.68	High School Diploma or Equivalent
Semiconductor Processing Technicians	4,256	4.4%	$19.37	83.9%	16.81	Associate's Degree
Software Developers and Software Quality Assurance Analysts and Testers	2,388	2.5%	$52.07	225.4%	1.25	Bachelor's Degree
Welders, Cutters, Solderers, and Brazers	2,104	2.2%	$24.52	106.1%	1.00	High School Diploma or Equivalent

Source: EMSI

EDUCATIONAL REQUIREMENTS

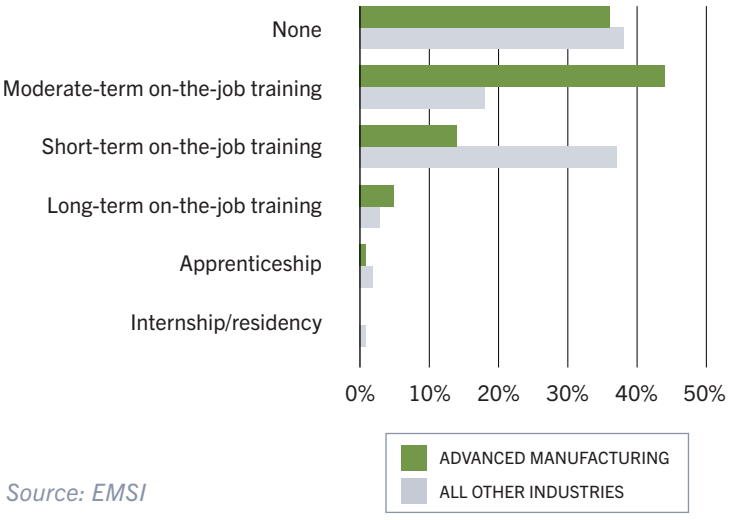
FIGURE 13: Advanced Manufacturing Employment, by Education Level, Greater Portland Region, 2020



Source: EMSI

While certain Advanced Manufacturing occupations require higher levels of education (engineers and managers), nearly 65 percent of the sector's jobs require less than an Associate's degree.

FIGURE 14: Advanced Manufacturing Employment, by Typical On-The-Job-Training, Greater Portland Region, 2020



Source: EMSI

Over 60 percent, however, do require some form of on-the-job training, typically indicating that upskilling beyond a high school diploma may be required.

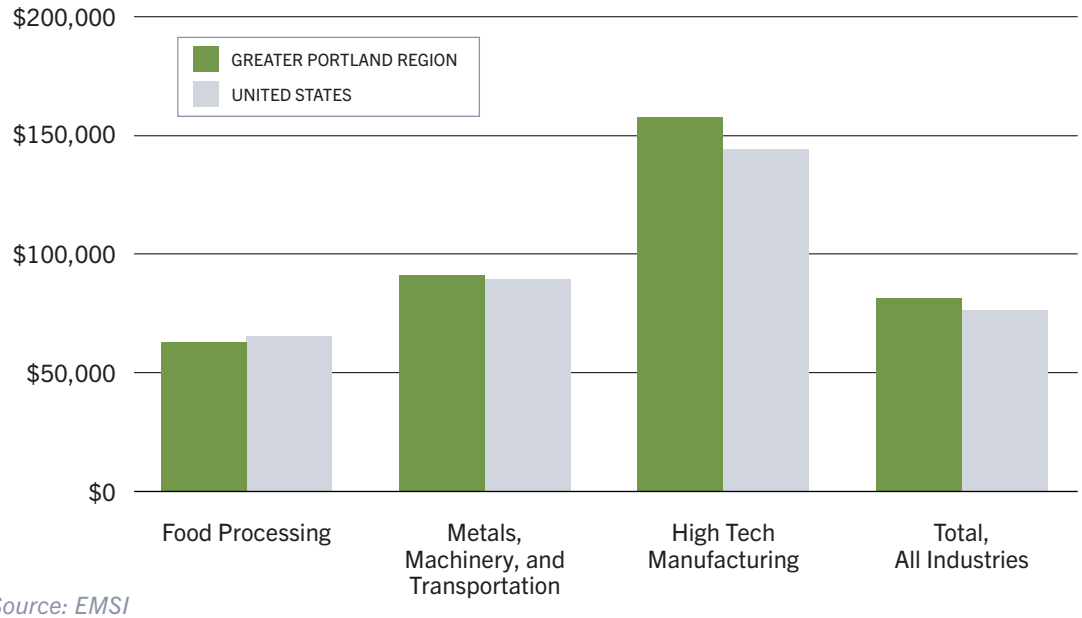
TABLE 4: Advanced Manufacturing Training and Degree Program Completions, Greater Portland Region, 2020

TRAINING	2020 COMPLETERS	AWARD LESS THAN 2 YEARS	AWARD AT LEAST 2 AND LESS THAN 4 YEARS	ASSOCIATE'S	BACHELOR'S	POSTBAC CERTIFICATE	MASTER'S	DOCTORATE
Airframe Mechanics and Aircraft Maintenance Technology/Technician	61	16	28	17	-	-	-	-
Autobody/Collision and Repair Technology/ Technician	10	-	2	8	-	-	-	-
Bioengineering and Biomedical Engineering	36	-	-	19	-	-	12	5
Drafting and Design Technology/Technician, General	121	85	-	36	-	-	-	-
Electrical and Electronics Engineering	212	-	7	97	-	-	103	5
Electrical, Electronic, and Communications Engineering Technology/Technician	25	4	-	21	-	-	-	-
Electromechanical/Electromechanical Engineering Technology/Technician	85	39	11	35	-	-	-	-
Engineering Technologies/Technicians, General	7	-	-	1	-	-	-	-
Engineering, General	17	-	-	13	1	-	3	-
Engineering, Other	2	-	-	-	-	-	-	-
Engineering/Industrial Management	37	-	-	-	-	-	34	1
Heavy Equipment Maintenance Technology/ Technician	1	-	-	1	-	-	-	-
Industrial and Product Design	3	-	-	-	-	-	3	-
Industrial Engineering	-	-	-	-	-	-	-	-
Industrial Mechanics and Maintenance Technology/Technician	31	4	-	27	-	-	-	-
Industrial Production Technologies/ Technicians, Other	37	27	10	-	-	-	-	-
Industrial Technology/Technician	1	-	-	1	-	-	-	-
Logistics, Materials, and Supply Chain Management	173	3	-	-	129	10	31	-
Machine Shop Technology/Assistant	52	50	-	2	-	-	-	-
Machine Tool Technology/Machinist	111	54	8	49	-	-	-	-
Manufacturing Engineering Technology/ Technician	39	11	-	28	-	-	-	-
Materials Engineering	19	-	-	-	-	-	19	-
Mechanical Engineering	231	-	-	13	197	-	20	1
Mechanical Drafting and Mechanical Drafting CAD/CADD	18	2	-	16	-	-	-	-
Mechanical Engineering Related Technologies/Technicians, Other	108	108	-	-	-	-	-	-
Welding Technology/Welder	266	215	-	51	-	-	-	-
Energy Systems Technology/Technician	-	-	-	-	-	-	-	-

Source: EMSI

WAGES

FIGURE 15: Annual Average Wages for Components of Advanced Manufacturing, Greater Portland Region and U.S., 2020

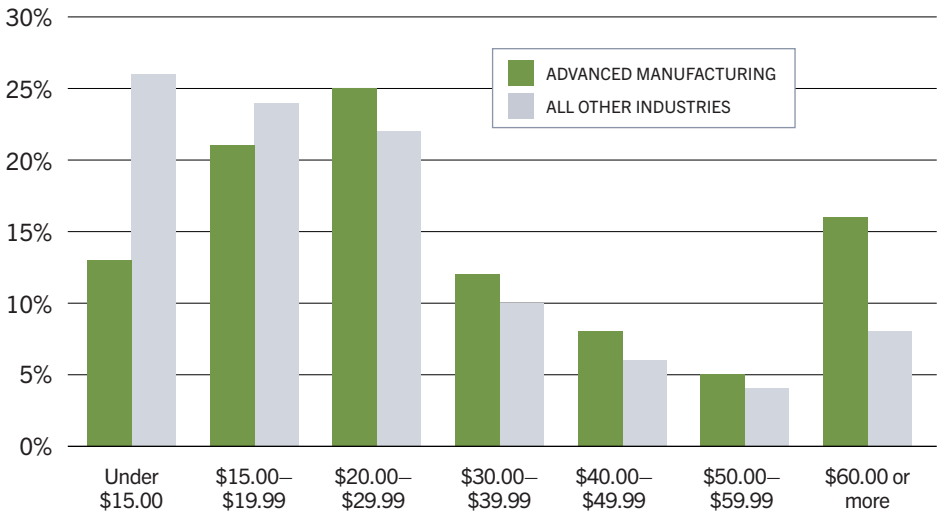


Source: EMSI

Advanced Manufacturing in the greater Portland region is comprised of several high-paying industries. They also pay better than their national counterparts. Overall, they pay 124 percent of the national average for the industry.

Sector wages are pulled up by the high tech component, which pays more than $157,700 annually on average. Nationally, this component averages $144,300 annually.

FIGURE 16: Advanced Manufacturing Employment, by Hourly Wage, Oregon, 2020

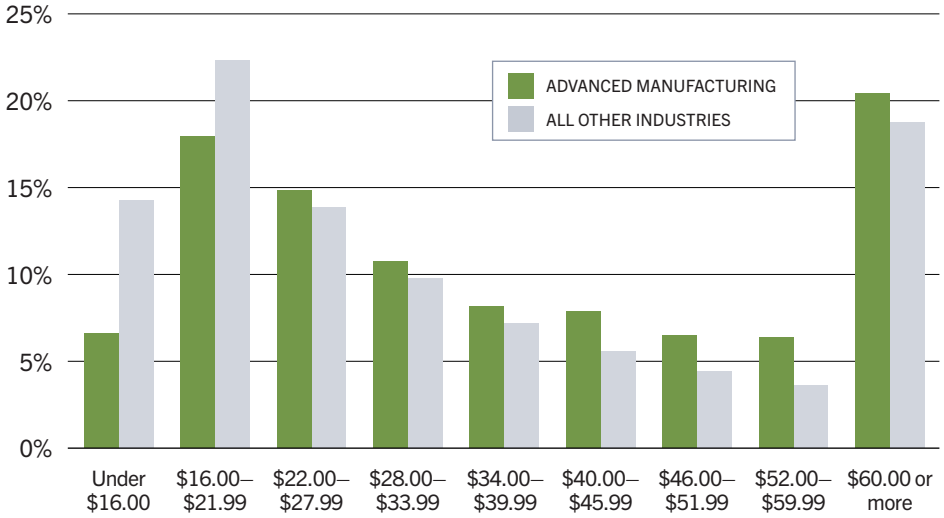


Source: Oregon Employment Department

Across Oregon, Advanced Manufacturing's median wage is $25.39 (2020); 27 percent more than for all industries ($19.97).

Nearly 30 percent of the workforce earns $40 hourly or more compared to 18 percent of workers across all other industries.

FIGURE 17: Advanced Manufacturing Employment, by Hourly Wage, Washington, 2020



Source: Washington Office of Employment Security

Across Washington, more than 40 percent of Advanced Manufacturing's workforce earns $40 hourly or more compared to 32 percent of workers across all other industries.

TURNOVER

Turnover refers to the change in the workforce due to employee separations and hiring.

There is less turnover in Advanced Manufacturing than in the overall economy.

Workers in the high tech component are very likely to stay at their current jobs.

TABLE 5: Turnover Rate in Advanced Manufacturing, Greater Portland Region, 2020

TOTAL, ADVANCED MANUFACTURING	**37%**
Metals, Machinery, and Transportation	37%
High Tech Manufacturing	19%
Food Processing	81%
TOTAL, ALL INDUSTRIES	**67%**

Source: EMSI

VACANCIES

TABLE 6: Largest Number of Vacancies in Manufacturing-Related Occupations, Portland Tri-County, 2020

OCCUPATION	2020 VACANCIES
Inspectors, Testers, Sorters, Samplers, and Weighers	169
Laborers and Freight, Stock, and Material Movers, Hand	416
Machinists	105
Production Workers, All Others	323

Source: Oregon Employment Department

CURRENT SUPPLY

TABLE 7: Worker Profiles, Greater Portland Region, 2021

OCCUPATION	PROFILES
Accountants and Auditors	7,651
Architectural and Engineering Managers	6,939
Computer and Information Systems Managers	7,009
Computer Hardware Engineers	940
Computer Occupations, All Other	9,333
Computer Systems Analysts	6,156
Computer User Support Specialists	11,051
Customer Service Representatives	14,969
Electrical and Electronic Engineering Technologists and Technicians	994
Electrical Engineers	2,535
Electronics Engineers, Except Computer	1,314
First-Line Supervisors of Office and Administrative Support Workers	19,780
First-Line Supervisors of Production and Operating Workers	6,906
General and Operations Managers	31,397
Industrial Engineering Technologists and Technicians	988
Industrial Engineers	7,775
Inspectors, Testers, Sorters, Samplers, and Weighers	1,880
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,867
Machinists	1,045
Maintenance and Repair Workers, General	3,545
Market Research Analysts and Marketing Specialists	4,998
Marketing Managers	18,028
Mechanical Engineers	6,690
Network and Computer Systems Administrators	6,024
Packaging and Filling Machine Operators and Tenders	803
Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	34,800
Production Workers, All Other	763
Sales Engineers	1,324
Sales Managers	18,461
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	7,590
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,568
Software Developers and Software Quality Assurance Analysts and Testers	18,915
Stockers and Order Fillers	3,220

Source: EMSI

CURRENT DEMAND

Online job postings have become more common in manufacturing compared to traditional methods of hiring (word of mouth, unionization), especially for positions that typically require higher levels of education including engineers, software developers, and managers.

A higher median posting duration likely indicates that regional employers struggle to fill these positions. The median average for all job postings is 33 days.

TABLE 8: Advanced Manufacturing Occupations with Largest Number of Online Job Postings, Greater Portland Region, June 2021–September 2021

OCCUPATION	June 2021–Sep 2021	Median Posting Duration	Number of Employeers Competing
Accountants and Auditors	3,320	39	670
Architectural and Engineering Managers	1,564	35	470
Computer and Information Systems Managers	1,612	40	492
Computer Hardware Engineers	606	61	106
Computer Occupations, All Other	4,978	42	1,077
Computer Systems Analysts	2,220	41	550
Computer User Support Specialists	3,105	35	979
Customer Service Representatives	6,103	31	1,254
Electrical and Electronic Engineering Technologists and Technicians	612	37	213
Electrical Engineers	1,403	48	341
Electronics Engineers, Except Computer	408	45	153
First-Line Supervisors of Office and Administrative Support Workers	3,992	33	1,313
First-Line Supervisors of Production and Operating Workers	2,330	35	662
General and Operations Managers	2,740	37	859
Industrial Engineering Technologists and Technicians	681	39	248
Industrial Engineers	2,528	42	680
Inspectors, Testers, Sorters, Samplers, and Weighers	708	33	217

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OCCUPATION	June 2021–Sep 2021	Median Posting Duration	Number of Employeers Competing
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	2,036	30	470
Machinists	581	42	152
Maintenance and Repair Workers, General	4,140	38	996
Market Research Analysts and Marketing Specialists	1,792	36	525
Marketing Managers	4,622	39	1,044
Mechanical Engineers	1,713	36	410
Network and Computer Systems Administrators	2,278	38	731
Packaging and Filling Machine Operators and Tenders	1,056	32	231
Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	2,641	36	864
Production Workers, All Other	1,130	34	327
Sales Engineers	670	36	267
Sales Managers	2,875	38	1,139
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	2,239	37	859
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,103	40	467
Software Developers and Software Quality Assurance Analysts and Testers	10,286	38	1,512
Stockers and Order Fillers	5,751	37	979

Source: EMSI

LONG-TERM DEMAND

TABLE 9: Occupations Adding the Largest Number of Jobs, Advanced Manufacturing, Greater Portland Region, 2020

OCCUPATIONS	2020	2030	% Change	Average Annual Openings	2020–2030	Replacement Jobs	Annual Replacement Jobs*
Electrical Engineers	2,679	2,934	10%	192	1,666	167	255
Electronics Engineers, Except Computer	4,760	4,897	3%	311	2,852	285	138
Industrial Engineers	4,177	4,573	9%	300	2,593	259	396
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	13,002	13,276	2%	1,231	11,836	1,184	274
Industrial Machinery Mechanics	3,578	3,975	11%	343	3,034	303	397
First-Line Supervisors of Production and Operating Workers	4,758	4,885	3%	450	4,268	427	127
Food Batchmakers	2,250	2,224	(1%)	284	2,752	275	(27)
Machinists	2,616	2,845	9%	277	2,512	251	228
Welders, Cutters, Solderers, and Brazers	3,271	3,370	3%	331	3,137	314	99
Packaging and Filling Machine Operators and Tenders	2,427	2,582	6%	275	2,557	256	155
Computer Numerically Controlled Tool Programmers	691	773	12%	72	637	64	82
Helpers-Production Workers	2,425	2,526	4%	344	3,298	330	101
Industrial Truck and Tractor Operators	4,614	5,494	19%	590	5,014	501	880
Laborers and Freight, Stock, and Material Movers, Hand	17,831	20,339	14%	2,590	23,386	2,339	2,508
Packers and Packagers, Hand	4,083	4,355	7%	569	5,391	539	271

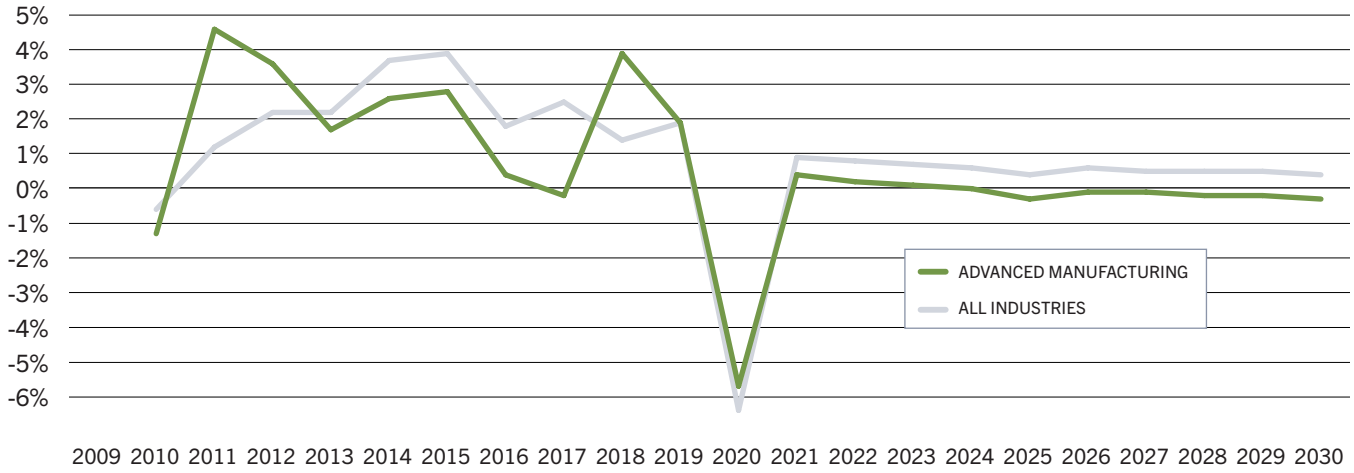
**Replacement jobs represent occupations across all industries, not just Advanced Manufacturing.*

Source: EMSI

Between 2020 and 2030, Advanced Manufacturing is projected to experience negative overall employment growth.

Among the occupations expected to experience positive growth, Laborers and Freight, Stock and Material Movers is projected to add the most jobs. Industrial Truck and Tractor Operators is expected to grow at the fastest rate.

FIGURE 18: Historical and Projected Growth, Greater Portland Region, 2010–2030



Source: EMSI

IMPORTING TALENT

TABLE 10: Approved H1-B Visas, by Employer, Greater Portland Region, 2020

OCCUPATIONS	# of Approved H-1B Visas	# of Continuing Approval H-1B Visas
AIR MANUFACTURING INNOVATION	0	1
NIKE	34	172
BIAMP SYSTEMS LLC	1	0
PLANAR SYSTEMS INC	0	1
TEKTRONIX INC	5	1
VOXTEL INC	0	1
CHAUCER FOODS LTD	0	1
JIREH SEMICONDUCTOR INC	5	4
LATTICE SEMICONDUCTOR CORPORATION	3	0
QORVO US INC	11	29
BIOTRONITK INC	0	2
GREENBRIER CENTRAL LLC	0	1
LIGHTSPEED AVIATION INC	1	0
MICRO SYSTEMS ENGINEERING INC	1	5
SOUTHWEST STEEL CASTING CO LLC	1	0
YAKIMA PRODUCTS INC	0	0
BRIDGETOWN NATURAL FOODS LLC	0	1
COLUMBIA SPORTSWEAR COMPANY	0	10
OREGON HEALTH & SCIENCE UNIVERSITY	0	1
D6 INC.	1	0
SEQUENTIAL PACIFIC BIODIESEL LLC	0	1
ADIDAS AMERICA INC	9	7
AMPERE COMPUTING LLC	0	1
BLOUNT INTERNATIONAL INC	1	4
DAIMLER TRUCKS NORTH AMERICA LLC	6	7
ELECTRO SCIENTIFIC INDUSTRIES INC	0	1
ESCO GROUP LLC	1	0
FREE GEEK	1	0
STEVENS WATER MONITORING SYSTEMS	1	0
TRICOL BIOMEDICAL INC	1	0
VESTAS AMERICAN WIND TECHNOLOGY IN	0	1
WILLIAMS CONTROLS INDUSTRIES INC	1	0
ALLIED SYSTEMS COMPANY	0	1
LEVITON MANUFACTURING CO INC	0	1
Q PACIFIC MANUFACTURING CORP	0	1
WAFERTECH LLC	2	0
PAN PACIFIC ENERGY CORP	0	1
CONSOLIDATED METCO INC	0	3
Total	86	259

Source: US Citizenship and Immigration Services

The H-1B Visa allows employers to temporarily employ foreign workers in specialty occupations which include engineering, math, and medicine, and generally require a Bachelor's degree or equivalent.

The Trump administration drastically reduced the availability of H-1B visas. The COVID-19 pandemic further limited visa eligibility and workers' mobility.

Nearly 4,000 H-1B visas were certified in the Portland region in 2014.

In 2020, the number of H-1B visas decreased to 1,036. One-third were issued for manufacturing businesses.

Nine out of 10 certified visas were filed by companies in just three cities: Hillsboro, Beaverton, and Portland. The Portland metro area is not a heavy user of H-1B visas relative to other areas in the country. However, we do stand out (along with Seattle, Durham, and San Diego) in that a small handful of large employers drive the majority of demand for H-1B visas in our region.

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