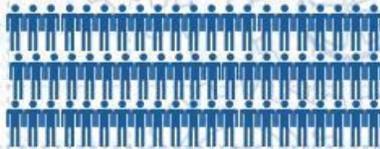


MANUFACTURING | SNOHOMISH COUNTY BLUEPRINT

762
EMPLOYERS



=

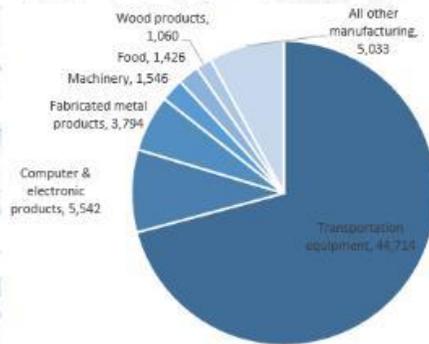


63,000+
JOBS

AVERAGE ANNUAL
SALARY



\$92,800

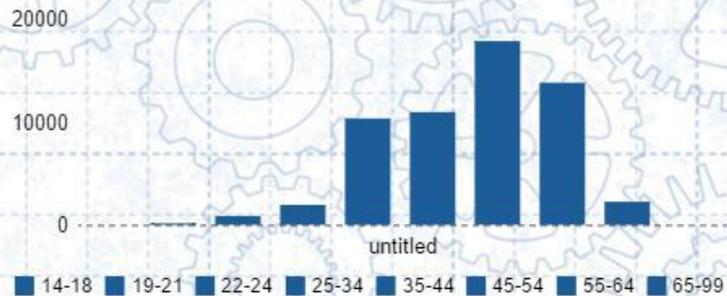


180



747 through 787
orders Boeing
received in 2015

Age of Workforce



Last updated February 2016

Summary

Manufacturing is the backbone of the Snohomish County economy, employing nearly a quarter of the workforce. The impact of this industry can be felt on a global scale. This sector is the largest engine of innovation and technology development in Snohomish County and has a consistently high productivity rate. Manufacturing companies can export in a month more than companies in other industries can export in a year. These positive contributions provide the local economy with the productivity and resilience needed to remain strong.

Keeping the manufacturing industry strong is a high priority for the county. The manufacturing sector in Snohomish County is comprised of 762 employers that directly support more than 63,000 jobs¹ accounting for nearly one in every four jobs throughout the county. We are still seeing signs of a hiring skills gap – workers not qualified to fill highly skilled and well-paying positions. And with an aging workforce, it is essential to continue efforts that are developing the next generation of skilled manufacturing workers.

Snohomish Employment Snapshot

Generally speaking, manufacturing jobs pay well. On average, workers in Snohomish County’s manufacturing industries earn \$92,800 per year.¹ Compare to the county-wide average annual wage of \$55,414. Higher-than-average paychecks contribute to the viability of other consumer-dependent industries throughout the region.

Within the manufacturing sector, the Aerospace Cluster receives much attention in Washington, and for good reason considering the industry’s growth and success. Other noteworthy local manufacturing industries include Computer and Electronic Product Mfg. (5,500 workers), Fabricated Metal Product Manufacturing (3,800 workers), Food Manufacturing (1,400 workers), and Wood Product Manufacturing (1,000 workers).¹

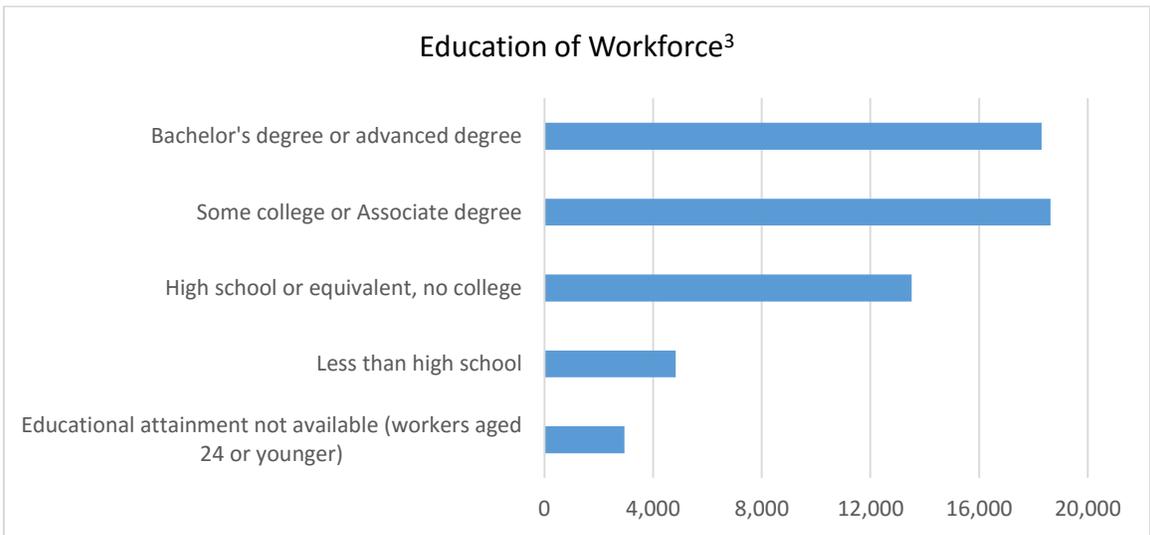
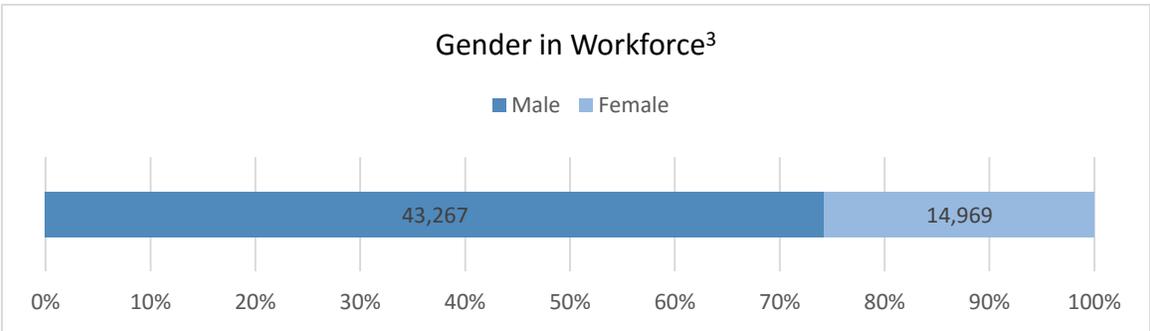
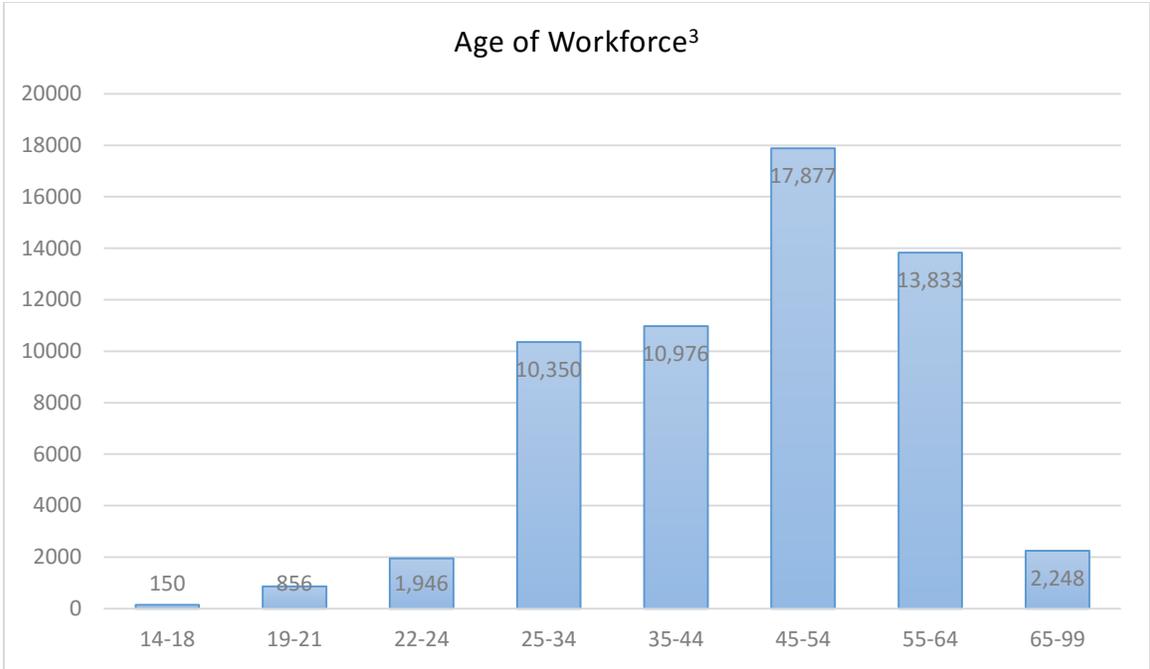
In addition to their various roles in aerospace, many local manufacturers serve other markets including shipbuilding, defense and energy generation.

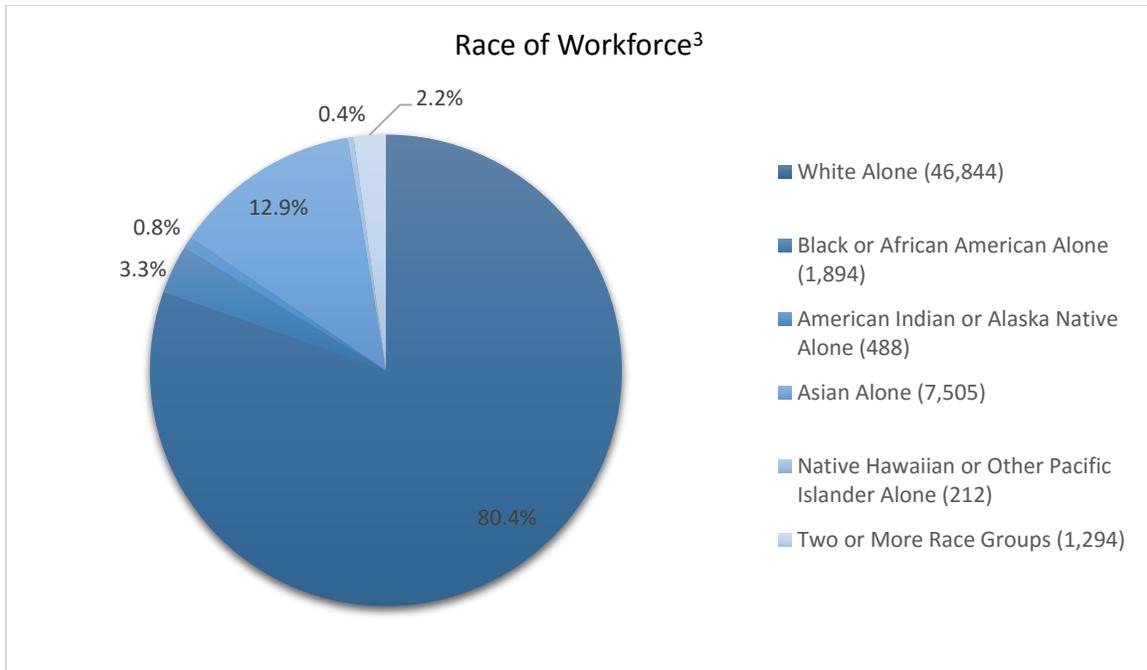
Employment Data

At a glance:¹

- Number of Businesses = 762
- Employment = 63,114
- Average Wage = \$92,800

Top 15 occupations:²	
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	9,817
Aerospace Engineers	4,571
Inspectors, Testers, Sorters, Samplers, and Weighers	2,876
Industrial Engineers	2,308
Aircraft Mechanics and Service Technicians	2,023
Logisticians	1,899
Purchasing Agents, Except Wholesale, Retail, and Farm Products	1,714
First-Line Supervisors of Production and Operating Workers	1,600
Machinists	1,521
Production, Planning, and Expediting Clerks	1,443
Team Assemblers	1,366
Electrical Engineers	1,350
Mechanical Engineers	1,245
Business Operations Specialists, All Other	1,132
Electrical and Electronic Equipment Assemblers	1,061





Trends

The aerospace industry and Boeing Commercial create enormous amounts of economic activity and fiscal benefits to the State of Washington—more than any other single private sector employer or industry.⁴ And Boeing continues to receive orders for new airplanes. In 2015 alone Boeing received 180 orders for the 747 through 787 lines. It is predicted that Boeing will be able to sustain its market share in commercial airplane deliveries.⁵ But beyond Boeing the local aerospace supply chain also supplies other aircraft manufacturers including Airbus, Bombardier, and COMAC. Over 220 Snohomish County based suppliers serve a variety of programs, including: avionics, engineering, modification, IT & software, interiors, logistics, machining, maintenance, materials, metal fabrication, structures, surface treatments, and systems.⁶

Snohomish County is has been designated as two **Innovation Partnership Zones**; aerospace and biomedical-devices.⁷ This economic development effort partners research, workforce training, and private sector participation to promote cluster development and collaboration in a research based effort that will lead to new technologies, marketable products, company formation, and job creation⁸.

- The primary objective for the **Biomedical Manufacturing Innovation Partnership Zone⁹** is to spotlight Washington State’s biomedical device industry and improve access to capital; improve the workforce pipeline; and to provide opportunities for collaboration among the primary and secondary industry with support from government agencies.¹⁰

- The **Aerospace Convergence Zone** creates synergy between industry, research, commercialization, and workforce development in concurrency with aero-tourism, land use, transportation, and housing/job balance planning to ensure the continued global prominence of Snohomish County’s aerospace industry and the prosperity of its residents.¹¹

The manufacturing sector is beginning to feel the impact of the aging of the Baby Boomer generation. Employers throughout the US are seeing a significant increase of their workers who are reaching retirement age. This is arguably creating skill deficits and knowledge transfer gaps.¹² In 2000, the median age of the manufacturing workforce—at 40.5—was 1.1 years above the median age of the total non-farm workforce. By 2012, this gap doubled, with the median age in manufacturing being 44.7 years versus 42.3 years for the total non-farm workforce.¹³ Locally, “The average age of Boeing employees is 46. About two-thirds of Boeing employees are eligible to retire in 10 years. If these employees choose to retire, or even delay their retirement until the average age of 60, the company can expect up to 8,000 employees to retire each year over the next 10 years.”¹⁴

Education & Training

In response to the great need for manufacturing workers, local education, training, and workforce development programs have been established to increase awareness of careers in the manufacturing sector and train and recruit qualified workers to fill current and future workplace vacancies.

STEM

The Snohomish County [STEM Network](#) was established in 2014 to leverage the talent and assets in the county in a collective manner to support and grow the STEM workforce in Snohomish County. This innovative approach is designed to keep a steady stream of qualified job-ready candidates and will help address the development needs of the existing workforce.

K-12

[Career and Technical Education](#) (CTE) courses are offered in each of the 15 Snohomish County school districts. The goal of these programs are to help students become career and college ready and be able to integrate and apply 21st century skills, technical knowledge and skills, and core academic knowledge. CTE programs in Washington are aligned with rigorous industry and academic standards. Teachers participate in meaningful professional development on curricula and instruction, standards and assessment, and academic integration. Local business and industry partners participate in advisories committees to keep the curricula current and relevant. School districts have arranged articulation agreements with local colleges to provide a seamless transition from high school to higher education.

[Sno-Isle TECH Skills Center](#) is a cooperative effort serving 14 local school districts. Each program provides students with skills that will prepare them for employment after graduation from high school or for related post-high school education or training. Nearly 1000 students participate in programs in one of five career pathways: Information Technology, Business Marketing & Management, Human Services, Science & Health, and Trade & Industry. Many programs articulate directly into local community college programs. Through a partnership with Boeing, the Aerospace program prepares students with the necessary skills and knowledge to make a transition into the aircraft manufacturing industry. The nationally recognized Precision Machining course teaches students basic precision machining and CNC skills.

[Tech Prep](#) serves students in grades 9-12. All Tech Prep dual credit classes are taken on the high school campus and are identified as Career and Technical Education (CTE) classes. CTE classes integrate academics with technical skill development to help prepare students for advanced education and careers related to "professional-technical" occupations.

[Core Plus](#) is a K-12 program that is based on industry reviewed and validated Knowledge Skills and Abilities (KSAs) that students are able to learn through classes in Computer-Aided-Design, Metal Fabricating, Aerospace Technology, Marine Technology, Machining, Construction and Agricultural Support Services. The curriculum is designed to help students learn STEM-based and career-related skills. Core Plus is currently offered at Marysville Arts & Tech, Glacier Peak, and Snohomish high schools and Sno-Isle TECH Skills Center.

Higher Education

Snohomish County is home to more than 18 public and private higher education institutions. With a strong emphasis on experiential learning, the majority of programs require internships and some offer apprenticeships. Employers value technical skills and well-rounded knowledge taught by local faculties. Highlighting STEM and 21st Century skills, Snohomish County's higher education network is committed to bridging the gap between the next generation of workforce and our local employers.

The [University of Washington Bothell](#) is the fastest-growing four-year public university in the state of Washington with more than 5,000 students and 45 undergraduate and graduate degree programs.

- The School of Science, Technology, Engineering and Mathematics (STEM) was opened in 2013 to respond to the need for a greater number of STEM graduates and to meet the demands of industry in Washington. The School of STEM offers a variety of degree options including Engineering and Mathematics.

In September 2015 [Washington State University](#) broke ground on a 95,000-square-foot building in north Everett. This will be the future home of WSU North Puget Sound at Everett and the Everett University Center, a consortium of higher education institutions managed by WSU.¹⁵

- WSU North Puget Sound offers electrical engineering, mechanical engineering, hospitality business management, and integrated strategic communications degrees.

[Edmonds Community College](#) averages around 11,600 students per quarter – nearly 20,000 per year – of which 38% are in workforce training. The college offers 64 associate degrees, 62 professional certificates in 29 programs of study. The STEM division offers degrees and certificates in Engineering, Engineering Technology and Materials Science.

- Edmonds Community College manages the [Washington Aerospace Training & Research](#) (WATR) Center through an operating agreement with the Aerospace Futures Alliance (AFA). WATR opened in 2010, as an educational resource for career pathways in the aerospace and manufacturing industry. The curriculum is designed to provide students the skills required for a high-wage, high-demand aerospace career opportunities in just 12 weeks.
- **THE FACILITY Makerspace** is opening the Edmonds Community College Material Science Department to the community. The Rapid Proto Lab offers access to the most essential, exciting, and versatile Makerspace equipment including: a Laser Cutter, 3D Printers, a CNC Router, and a 3D Scanner. THE FACILITY focuses on getting users up to speed and vetted on these tools as quickly as possible.

[Everett Community College](#) serves nearly 20,000 students per year with a quarter of them in vocational/technical courses. The Aerospace and Advanced Manufacturing division offers degrees and certificates in six programs: manufacturing pre-employment, precision machining, composites, engineering technology, welding and fabrication, and aviation maintenance.

- Located at Everett Community College, the [Center of Excellence for Aerospace and Advanced Manufacturing](#) strategically works with the aerospace and advanced manufacturing industry by focusing on economic development, industry sector strategy, education, innovation and efficiency, and workforce supply and demand. The center facilitates the growth of aerospace manufacturing jobs and the training of skilled labor in Washington.
- Everett Community College opened the [Aerospace Manufacturing Training & Education Center](#) (AMTEC) in the fall of 2014. AMTEC offers short, stackable certifications and certificates that build to a college degree and a pathway to family wage jobs in the manufacturing industry. AMTEC connects over 1,000 students annually with more than 200 manufacturing industry employers through on-site visits, collaborative projects, and placement for internships and jobs. A new Mechatronics program will be added in Fall 2016.

- Everett Community College’s [Corporate & Continuing Education Center](#) offers customized training for businesses, nonprofits, and government agencies to keep organizations competitive. They work with employers in the aerospace and manufacturing industries.

The [Aerospace Joint Apprenticeship Committee](#) (AJAC) offers aerospace apprenticeships in Arlington, Everett and Monroe. Training includes Aircraft-Oriented Machining, Precision Metal Fabrication, Aircraft Mechanic Airframe, Industrial Maintenance Mechanic, Tool & Die Maker, and their Manufacturing Academy.

- AJAC, in partnership with **Workforce Snohomish**, has launched Pre-Apprenticeship Manufacturing Training for long-term unemployed individuals. The students acquire the technical hands-on training, certifications and soft skills needed to pursue entry-level employment in apprenticeable occupations such as, industrial maintenance, machining or precision metal fabrication.¹⁶

The [Center for Advanced Manufacturing Puget Sound](#) (CAMPS) is a resource center bringing together manufacturers, supply chain partners, pre-qualified business development specialists, and strategic partners. CAMPS has initiated a number of programs to help develop curriculum in K-12 and higher education.

The [Institute of Fight](#) offers a variety of education programs focused around aerospace that highlights STEM.

Strategic Industry Clusters

- **Aerospace**
- **Biomedical devices**

Data Sources

- 1 [Employment Security Department / LMPA, U.S. Bureau of Labor Statistics; QCEW, 2014 annual averages](#)
- 2 [Employment Security Department / LMPA; Projections](#)
- 3 [U.S. Census Bureau; Quarterly Workforce Indicators, 2014 annual averages](#)
- 4 [Washington State Aerospace Industry: Economic Impact Study, November 2013](#)
- 5 [Forbes: Boeing Will Sustain Its Current Market Share In Commercial Airplane Deliveries](#)
- 6 Economic Alliance Snohomish County: Aerospace Assets
- 7 [Seattle Times: County gets aerospace, biomedical zones](#)
- 8 [Innovation Partnership Zones An economic development strategy to encourage regional collaboration to advance innovation](#)
- 9 [Bothell Biomedical Manufacturing Innovation Partnership Zone: Business Plan](#)
- 10 [City of Bothell: Biomedical Manufacturing Innovation Zone](#)
- 11 [Washington State Department of Commerce: Aerospace Convergence Zone: Business Plan](#)

- 12 [The Sloan Center on Aging & Work at Boston College: Talent Pressures and the Aging Workforce: Responsive Action Steps for the Manufacturing Sector.](#)
- 13 [Manufacturing Institute: Median Age of the Manufacturing Workforce](#)
- 14 [Boeing Frontiers: June 2006](#)
- 15 [Everett Herald: Ceremonial ground breaking held for WSU's Everett branch](#)
- 16 [AJAC Winter Wrap-up Newsletter](#)

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