



IV. Aerospace and Defense Industry Workforce Profile

The Aerospace and Defense workforce is diverse, offering a broad range of job opportunities across the spectrum of skill sets and educational achievement. This chapter presents information on the current regional employment by sector, including the number of establishments and the average state wage. The chapter proceeds to detail the prominent occupations in each sector, the prevailing wages, and the educational attainment needed for the prominent occupations.

The table below highlights business establishments, employment, and average annual pay in Florida for each of the cluster's 13 sectors.

| Aerospace and Defense Cluster Detailed Statistics: Northwest Florida (16 counties) 2004 | | | |
|--|-----------------------------|-------------------------|--------------------------------------|
| Sector | Total Establishments | Total Employment | Average Annual Pay in Florida |
| Aerospace and Transportation Equipment Manufacturing | 8 | 731-1,548 | \$55,742 |
| Air Transportation and Support Activities | 63 | 1,314-1,888 | \$48,047 |
| Chemicals and Fuel Manufacturing and Distribution | 18 | 294-677 | \$45,536 |
| Computers, Electronics, and Electrical Equipment Manufacturing | 27 | 2,191-3,171 | \$57,027 |
| Consulting Services | 416 | 2,179-2,854 | \$49,734 |
| Engineering, Testing, Research and Development, Industrial Design | 408 | 5,773-6,173 | \$56,699 |
| Fabricated Metals and Machinery Manufacturing | 58 | 635-1,252 | \$41,980 |
| Facilities and Business Support Services | 271 | 6,271-6,783 | \$23,160 |
| Flight Training | 4 | 13-31 | \$33,830 |
| IT, Systems Integration, Network Solutions, and Telecommunications | 431 | 5,436-6,012 | \$63,986 |
| Machinery and Equipment Wholesalers | 81 | 499-555 | \$43,680 |
| Maintenance, Repair, and Overhaul | 94 | 562-840 | \$35,084 |
| National Security | 21 | 9,578 | \$59,174 |
| Northwest Florida Aerospace and Defense Cluster Total | 1,900 | 35,476-41,362 | \$48,806 |
| Northwest FL Region – All Industries | 32,773 | 524,681 | \$33,042 |
| The Aerospace and Defense Cluster represents 6.9 percent to 8.0 percent of total employment and 5.8 percent of total establishments in Northwest Florida. | | | |



Aerospace and Defense is a high-wage cluster. As the table above depicts, the average annual salary in Aerospace and Defense exceeds the average annual salary in all industries as a whole by nearly 50 percent. Aerospace and Defense employees earn an average of nearly \$49,000 annually, significantly above the state-wide average across all industries of \$33,000.

Salaries vary considerably by sector. Information Technology sector employees garner the highest sectoral wages at \$64,000 annually, followed in order by National Security, Computer Manufacturing, Engineering and Testing, and Aerospace Manufacturing. At the other end of the spectrum, Facilities and Business Support Services personnel earned the least at \$23,000 per year, followed by Flight Training at \$34,000 and Maintenance, Repair and Overhaul at \$35,000.

As the table above also depicts, 2004 employment by sector in (non-military) aerospace and defense ranged from a low of approximately 20 in Flight Training, to a high of 9,600 civilian DoD employees in National Security. Two of the largest sectors, were Engineering and Testing, and Information Technology, each with some 6,000 employees. In fact, Fort Walton Beach-Crestview-Destin has the third highest concentration of Aerospace Engineers in the nation, as the table on the following page demonstrates. With Aerospace Engineers comprising 0.6 percent of MSA employment, the area edges out San Jose and Los Angeles, behind only Huntsville, Alabama, and Melbourne, Florida. Northwest Florida also offers significant cost savings. Fort Walton Aerospace Engineer wages run 14-21 percent below Aerospace Engineer wages paid in three of the four other leading areas, paying more only than firms in Palm Bay-Melbourne-Titusville.



| Aerospace Engineer Concentration in Leading MSAs | | | | | |
|--|-------------------|-------------------------|-------------------------|----------------------------------|--|
| Metropolitan Statistical Area (MSA) | Employment | Hourly Mean Wage | Annual Mean Wage | Percent of MSA Employment | Wage Differential with Ft. Walton |
| Huntsville, AL | 2,580 | \$43.49 | \$90,470 | 1.3140% | 14.56% |
| Palm Bay-Melbourne-Titusville, FL | 1,360 | \$37.16 | \$77,290 | 0.652% | -1.13% |
| Fort Walton Beach-Crestview-Destin, FL | 530 | \$37.58 | \$78,170 | 0.614% | n/a |
| San Jose-Sunnyvale-Santa Clara, CA | 3,830 | \$47.82 | \$99,480 | 0.430% | 21.41% |
| Los Angeles-Long Beach-Glendale, Cal Metropolitan Division | 13,570 | \$47.16 | \$98,090 | 0.330% | 20.31% |

Source: www.bls.gov/oes/current/oes172011.htm

A. Prominent Occupations, Wages and Minimum Educational Requirements

For each Aerospace and Defense sector, SRI analyzed the prominent occupations. Prominent occupations are those specialized positions that exist in significant quantities, defined as at least 3 percent of sector jobs. Prominent occupations are confined to specialized positions within the sector. As with nearly all sectors, general executive, managerial, sales, and support positions constitute a significant percentage of total employment within aerospace and defense. These general positions, while important to the economy, are not the focus of this sector-specific analysis.

For the prominent occupations in each sector, SRI provides national and regional wage data, and the minimum educational requirement. Median hourly wages are presented for three metropolitan statistical areas in the region: Fort Walton Beach, Panama City-Lynn Have, and Tallahassee, to the extent that the data are available. The minimum education requirement is the minimum degree that generally allows a candidate to attain a given position, as determined by the U.S. Department of Labor. In the case of many of the engineer and other high-level positions, a bachelor's degree is sufficient to enter the ranks, but higher-level



degrees are the norm. As our goal is to understand the educational requirements necessary to prepare the workforce for aerospace and defense positions, the minimum educational requirement is instructive.

The following tables summarize the prominent occupations, their national and regional hourly wages¹⁸⁶, and their minimum education requirements, by A&D sector. The tables support several conclusions that are instructive for the region's workforce and economic development efforts. First, the A&D cluster offers a diverse range of prominent positions that can be attained by a broad spectrum of minimum educational attainment, spanning from high school diploma or General Educational Development (GED) through vocational school and bachelor's degree. Preparing the A&D workforce will offer opportunities for extensive involvement of all of the region's schools, institutes, and universities. Second, in nearly all cases, Northwest Florida is cost-competitive compared to the national average wage. Generally, Tallahassee wages lag the national average by the most, followed by Panama City-Lynn Haven and then by Ft. Walton Beach, where the prevailing average wage in many cases is just shy of the national average, although there are exceptions to this pattern.

This report presents prominent positions, wages, and minimum educational attainment for each of the twelve existing A&D sectors in Northwest Florida, as well as for target sub-sectors. Governmental statistics such as NAICS and Occupation Codes do not differentiate sub-sectors such as unmanned systems, very light jets, or composite materials, several of the region's target sub-sectors, from broader categories. Thus, aerospace engineers include engineers who work on both manned and unmanned systems of various sizes from very light jets to jumbo jets, and made of a variety of materials, including composite materials. For this reason, target sub-sectors such as Unmanned Systems, Very Light Jets, Composite Materials, Cargo Aviation, and Avionics are analyzed by looking at similar sectors for which statistics do exist. For example, prominent occupations in Unmanned Systems will include prominent occupations aerospace and electronics manufacturing, engineering and testing, and IT. In our sectoral analysis below, we indicate how each target sub-sector fits into the broader sectors, linking the prominent occupations in the broader sectors to those in the more narrowly defined groupings. Current regional employment and number of establishments in target sub-sectors not tracked by federal statistics would need to be determined by a business survey.

¹⁸⁶ The source of information presented in this section in industry-specific prominent occupations, national and regional median wages, and minimum educational requirements, is the U.S. Department of Labor's Bureau of Labor Statistics, www.bls.gov/oes/current/oes_ind.htm. Data presented are May 2006 National Industry-Specific Occupation Employment and Wage Estimates.



The table below notes the proxies utilized to analyze sub-clusters for which governmental data on occupations and wages unavailable. For each target sub-cluster, the shaded boxes indicate the sectors with prominent occupations relevant to understanding the occupational make-up of the target sub-clusters.

| Workforce Profile of Target Sub-clusters | | | | | | | | | | |
|---|----------------------------|------------------------|----------------------------|-----------------------|------------------------------------|-----------------|--------------------------------|------------------------|---------------------------------|-------------------|
| Relevant Sectoral Workforce Profile | Target Sub-clusters | | | | | | | | | |
| | Unmanned Systems | Very Light Jets | Composite Materials | Cargo Aviation | Maintenance Repair Overhaul | Avionics | Engineering and Testing | Flight Training | Air Trans. & Support | Consulting |
| Aerospace Manufacturing | | | | | | | | | | |
| Air Transportation | | | | | | | | | | |
| Chemicals and Fuel | | | | | | | | | | |
| Computers and Electronics Manufacturing | | | | | | | | | | |
| Consulting Services | | | | | | | | | | |
| Engineering and Testing | | | | | | | | | | |
| Fabricated Metals Manufacturing | | | | | | | | | | |
| Facilities Support Services | | | | | | | | | | |
| Flight Training | | | | | | | | | | |
| IT and Network Solutions | | | | | | | | | | |
| Machinery Wholesalers | | | | | | | | | | |
| Maintenance, Repair and Overhaul | | | | | | | | | | |



Aerospace and Transportation Equipment Manufacturing

The Aerospace and Transportation Equipment Manufacturing industry draws on a variety of specialized occupations, outlined in the table below. Engineers predominate, comprising nearly one-fourth of all jobs in the industry, led by Aerospace Engineers but also including Industrial Engineers, Mechanical Engineers, Computer Software and other engineers. These high-paying positions (median hourly wages approach \$40/hour) generally require a Bachelor's degree.

Other prominent, specialized positions in the industry include Aircraft Mechanic and Service Technician, Assemblers, Machinists, and Inspectors and Testers. These positions pay a national median hourly wage on the order of \$20/hour. Either a high school diploma or vocational school is the minimum educational requirement for these jobs.

UAV and VLJ manufacturing, as well as manufacturing using composite materials, will depend on the same specialized occupations and educational resources discussed in this aerospace and transportation equipment manufacturing sector.

| Aerospace and Transportation Equipment Manufacturing: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|---|--|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 17-2011 | Aerospace Engineers | \$39.91 | \$38.46 | n/a | n/a | Bachelor's Degree |
| 49-3011 | Aircraft Mechanics and Service Technicians | \$21.58 | \$20.43 | n/a | \$19.38 | Vocational School |
| 51-2011 | Aircraft Structure, Surfaces, Rigging and Systems Assemblers | \$22.18 | n/a | n/a | n/a | High School Diploma |
| 51-4041 | Machinists | \$18.46 | 14.39 | \$16.73 | \$10.59 | Vocational School |



| Aerospace and Transportation Equipment Manufacturing: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|---|---|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 51-9061 | Inspectors, Testers, Sorters, Samplers and Weighers | \$20.62 | \$18.86 | \$15.85 | \$14.67 | High School Diploma |
| 15-1031 | Computer Software Engineers | \$40.71 | \$39.95 | n/a | \$31.50 | Bachelor's Degree |

Air Transportation and Support Activities

Air Transportation and Support Activities is composed of several prominent occupations. Some 15 percent of air transportation employment consists of Airline Pilots, Copilots, and Flight Engineers. These jobs command a national median hourly wage of just over \$70. A high school diploma can be a minimum educational requirement to enter the field at a small airline, but most entrants to this occupation have a college degree. A high school diploma can also suffice for entering four other large job categories in the sector: Flight Attendants (20 percent of employment), Reservation Agents (20 percent of employment), Laborers (10 percent of employment), and Cargo and Freight Agents (4 percent). Aircraft Mechanics, at 20 percent of employment the last prominent occupation in the field, generally requires vocational school to enter the career.

The Air Transportation and Support Activities is an important target sector for Northwest Florida. The table on the following page illustrates the minimum educational requirements and regional wages for the prominent occupations in this target sector.



The Air Cargo and Distribution target sector is largely a subset of Air Transportation and Support Activities. As such, the target sector will depend on the same specialized occupations and workforce preparation resources as the general Air Transportation and Support Activities sector. In addition, Air Cargo and Distribution will depend on a network of ground transportation and distribution infrastructure and its related employment.

| Air Transportation and Support Activities: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|--|------------------------------------|--|--|---------------------------------------|--|
| Occupation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Tallahassee Median Hourly Wage | Minimum Educational Requirement |
| 53-2011 | Airline Pilots, Copilots and Flight Engineers | \$70.14 | n/a | n/a | n/a | High School Diploma |
| 49-3011 | Aircraft Mechanics and Service Technicians | \$26.81 | \$20.43 | n/a | \$19.38 | Vocational School |
| 39-6031 | Flight Attendants | \$27.02 | n/a | n/a | n/a | High School Diploma |
| 43-4181 | Reservation and Transportation Ticket Agents and Travel Clerks | \$15.76 | \$15.63 | \$12.22 | \$13.80 | High School Diploma |
| 43-5011 | Cargo and Freight Agent | \$17.84 | n/a | n/a | n/a | High School Diploma |
| 53-7062 | Laborers and Freight, Stock and Material Movers, Hand | \$9.91 | \$9.89 | \$8.53 | \$9.04 | High School Diploma |

Chemicals and Fuel Manufacturing and Distribution

The Chemicals and Fuel Manufacturing and Distribution sector provides jobs across the spectrum of minimum educational attainment. A Bachelor's degree is



required for several positions, including Chemical Engineer, Chemist, and First Line Supervisor/Production Manager. Chemical Technicians require an Associates Degree, while vocational school is a requirement for Industrial Machinery Mechanics. A high school diploma is sufficient for Maintenance and Repair Workers and Truck Drivers. The workforce in this sector has relatively few linkages with the workforce in the target sectors. The prominent occupations and wages are presented in a table below.

| Chemicals and Fuel Manufacturing and Distribution: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|--|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 17-2041 | Chemical Engineers | \$39.38 | n/a | n/a | n/a | Bachelor's Degree |
| 19-2031 | Chemists | \$29.97 | n/a | \$28.37 | \$19.25 | Bachelor's Degree |
| 19-4031 | Chemical Technicians | \$21.89 | n/a | \$18.63 | n/a | Associate's Degree |
| 49-9041 | Industrial Machinery Mechanics | \$22.82 | \$20.53 | n/a | \$14.91 | Vocational School |
| 49-9042 | Maintenance and Repair Workers, General | \$21.14 | \$13.39 | \$12.91 | \$12.66 | High School Diploma |
| 5101011 | First Line Supervisors/Manager of Production and Operating Workers | \$30.84 | \$25.96 | \$22.14 | \$20.22 | Bachelor's Degree |
| 53-3032 | Truck Drivers, Heavy and Tractor-Trailer | \$16.37 | \$13.23 | \$11.53 | \$12.17 | High School Diploma |



Computers, Electronics, and Electrical Equipment Manufacturing

Engineers are prominent in this sector, making up nearly 15 percent of all jobs. The sector's Computer Software Engineers, Electrical Engineers, and Industrial Engineers, as well as First Line Supervisors/Production Managers need Bachelor's degrees for their high-paying positions.

The bulk of the remaining specialized jobs include Electrical and Electronic Equipment Assemblers (9 percent of the employment), Team Assemblers (5 percent of the employment) and Inspectors and Testers (3 percent of the employment). For these jobs, for which a high school diploma is sufficient for career entry, national average hourly wages run \$12-\$14. The sector is summarized in the following table.

UAV component manufacturing, VLJ component manufacturing, and Avionics manufacturing would all reflect a similar workforce profile to the profile presented below. Manufacturers in these target sectors would utilize the same prominent occupations and educational and workforce preparation resources as the Computers, Electronics, and Electrical Equipment Manufacturing sector.



| Computers, Electronics, and Electrical Equipment Manufacturing: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|---|---|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 15-1032 | Computer Software Engineers | \$43.33 | \$35.23 | \$36.70 | \$30.64 | Bachelor's Degree |
| 17-2071 | Electrical Engineers | \$38.54 | \$41.56 | \$33.94 | \$36.96 | Bachelor's Degree |
| 17-2112 | Industrial Engineers | \$35.86 | \$26.33 | \$34.26 | n/a | Bachelor's Degree |
| 51-1011 | First Line Supervisors/Managers of Production and Operating Workers | \$25.23 | \$25.96 | \$22.14 | \$20.22 | Bachelor's Degree |
| 51-2022 | Electrical and Electronic Equipment Assemblers | \$12.85 | \$9.62 | n/a | n/a | High School Diploma |
| 51-2092 | Team Assemblers | \$11.73 | \$11.13 | \$9.58 | \$9.78 | High School Diploma |
| 51-9061 | Inspectors, Testers, Sorters, Samplers and Weighers | \$14.32 | \$18.86 | \$15.85 | \$14.67 | High School Diploma |

Consulting Services

Due to Northwest Florida's assets in A&D, and forecast growth in consulting, the Consulting Services sector merits consideration as a high-opportunity sector. The table below highlights the sector's prominent occupations, prevailing regional wages, and minimum educational requirements.



Four of the most prominent occupations in the Consulting Service industry are Management Analysts, Sales Representatives, Executive Secretaries, and Office Clerks. A Bachelor's degree is the minimum educational requirement for the first two jobs listed, while the remaining two require a high school diploma.

| Consulting Services: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|---|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 13-1111 | Management Analysts | \$36.83 | \$29.06 | \$26.67 | \$22.53 | Bachelor's Degree |
| 41-3099 | Sales Representatives, Services | \$25.86 | \$15.00 | \$17.51 | \$20.20 | Bachelor's Degree |
| 43-6011 | Executive Secretaries and Administrative Assistants | \$19.41 | \$14.97 | \$16.29 | \$15.73 | High School Diploma |
| 43-9061 | Office Clerks | \$11.14 | \$9.77 | \$9.97 | \$10.25 | High School Diploma |

Engineering, Testing, Research and Development, and Industrial Design

Engineering, Testing, Research and Development, and Industrial Design is a key growth sector for Northwest Florida, supporting and catalyzing the development of much of the A&D cluster. Supporting the sector's workforce is a priority.

More than one-quarter of employment in Engineering Services consists of Engineers: Aerospace Engineers, Electrical Engineers, Mechanical Engineers, Civil Engineers, and Computer Software Engineers. Bachelor's degrees are required to enter these high-paying occupations offering from \$33 to \$47/hour nationally. Bachelor's degrees are also necessary to attain the position of Environmental Scientist or Computer Systems Analyst. For most remaining prominent positions in the industry, such as technicians and drafters, vocational



school or an Associate's degree is sufficient. The following table summarizes this sector.

It is the Engineering and Testing sector that most closely reflects the prominent occupations in many of the other target sub-sectors as well, including UAVs, VLJs, Composite Materials, and Avionics. The prominent occupations in Engineering and Testing, and the educational resources that support them, will also serve as the foundation for these target sub-sectors.

| Engineering, Testing, Research and Development, Industrial Design: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|--|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 17-2011 | Aerospace Engineer | \$43.32 | \$38.46 | n/a | n/a | Bachelor's Degree |
| 17-2071 | Electrical Engineer | \$36.81 | \$41.56 | \$33.94 | \$36.96 | Bachelor's Degree |
| 17-2141 | Mechanical Engineer | \$38.05 | \$34.90 | \$41.93 | \$33.84 | Bachelor's Degree |
| 17-2051 | Civil Engineer | \$33.45 | \$26.50 | \$28.31 | \$30.71 | Bachelor's Degree |
| 17-3021 | Aerospace Engineering and Operations Technician | \$26.89 | n/a | n/a | n/a | Associate's Degree |
| 17-3023 | Electrical and Electronic Engineering Technician | \$23.23 | \$22.90 | \$25.20 | n/a | Associate's Degree |
| 17-3013 | Mechanical Drafter | \$21.47 | n/a | \$21.84 | \$25.00 | Vocational School |



| Engineering, Testing, Research and Development, Industrial Design: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|----------------------------------|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 19-2041 | Environmental Scientist | \$26.96 | \$25.58 | \$20.65 | \$22.80 | Bachelor's Degree |
| 19-4031 | Chemical Technician | \$14.51 | n/a | \$18.63 | n/a | Associate's Degree |
| 15-1032 | Computer Software Engineer | \$46.74 | \$35.23 | \$36.70 | \$30.64 | Bachelor's Degree |
| 15-1051 | Computer Systems Analyst | \$40.78 | \$28.64 | \$25.37 | \$23.57 | Bachelor's Degree |

Fabricated Metals and Machinery Manufacturing

First-Line Supervisors make up about 4 percent of this industry, and Mechanical Engineers contribute another 2 percent to employment. In general, employees in these positions must hold a Bachelor's degree.

The sector is dominated by three other relatively large occupational groups, Machinists, Welders, and Team Assemblers, each employing some 5-6 percent of the sector. Machinists and Welders need vocational school, while Team Assemblers in general must hold a high school diploma.

The remainder of specialized employment in the field consists of a variety of positions, Cutting, Punching and Press Machine Setter, Maintenance and repair Worker, and Helper-Production Worker, paying on average \$8-13/hour in Northwest Florida. A high school diploma is the minimum educational requirement to fill these jobs. This information is summarized in the following table.



Manufacturing in the target sub-sectors of UAVs, VLJs, and composite materials would depend on the same prominent occupations and educational resources outlined in this discussion of Fabricated Metals and Machinery Manufacturing.

| Fabricated Metals and Machinery Manufacturing: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|--|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 17-2141 | Mechanical Engineer | \$30.38 | \$34.90 | \$41.93 | \$33.84 | Bachelor's Degree |
| 51-1011 | First-Line Supervisor | \$23.01 | \$25.96 | \$22.14 | \$20.22 | Bachelor's Degree |
| 51-4011 | Computer-Controlled Machine Tool Operator | \$15.02 | n/a | n/a | n/a | Vocational School |
| 51-4031 | Cutting, Punching and Press Machine Setter | \$12.74 | \$12.31 | n/a | \$9.96 | High School Diploma |
| 49-9042 | Maintenance and Repair Worker | \$17.52 | \$13.39 | \$12.91 | \$12.66 | High School Diploma |
| 51-4041 | Machinist | \$16.32 | \$14.39 | \$16.73 | n/a | Vocational School |
| 51-4121 | Welders, Cutters, Solderers and Brazers | \$15.26 | \$13.29 | \$15.14 | \$11.01 | Vocational School |
| 51-2092 | Team Assembler | \$12.79 | \$11.13 | \$9.58 | \$9.78 | High School Diploma |
| 51-9198 | Helper – Production Worker | \$10.23 | n/a | \$8.23 | \$8.00 | High School Diploma |



Facilities and Business Support Services

A high school diploma suffices to enter the prominent specialized positions in this sector. Janitors make up 10 of the industry's employment, followed by Security Guards at 8 percent, Laborers at 6 percent, and Customer Service Representatives at 8 percent. These occupations generally pay from \$9-11/hour in Northwest Florida. The table below describes this sector. Growth across all of the target sectors would build on the prominent occupations and workforce preparation pathways in this supporting sector.

| Facilities and Business Support Services: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|---|--|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 33-9032 | Security Guard | \$9.78 | \$9.60 | \$8.47 | \$9.88 | High School Diploma |
| 37-2011 | Janitor and Cleaner | \$8.59 | \$9.00 | \$10.13 | \$8.18 | High School Diploma |
| 43-4051 | Customer Service Representative | \$11.38 | \$9.81 | \$10.77 | \$15.32 | High School Diploma |
| 53-7062 | Laborer and Freight, Stock, and Material Mover, Hand | \$8.76 | \$9.89 | \$8.53 | \$9.04 | High School Diploma |

Flight Training

The principal specialized occupation in the flight training sector is a Flight Instructor. The minimum educational requirement for this position is generally a high school diploma, although many hold a college degree. While the Bureau of Labor Statistics does not track wages of flight instructors, Avjobs.com estimates that flight instructors make \$29,000 annually, some \$14.50/hour¹⁸⁷. Flight

¹⁸⁷ Source: Avjobs.com, presented at www.aviationsalary.com. Information current as of 1/28/08.



instructors will support both the flight training target sector but also support flight training for the VLJ and air cargo target sub-sectors. This information is summarized in the following table.

| Flight Training: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|----------------------------------|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| n/a | Flight Instructor | \$14.50 | n/a | n/a | n/a | High School Diploma |

Information Technology, Systems Integration, Network Solutions and Telecommunications

A Bachelor’s degree is required to enter most Information Technology jobs. The sector’s most prominent positions are: Computer Software Engineer, Computer Programmer, and Computer Systems Analyst. In Northwest Florida, employees in these positions earn from \$23-40/hour. Computer Support Specialists, earning approximately \$16/hour in Northwest Florida need only attain an Associate’s degree. The IT field is summarized in the table below.

The IT sector plays a critical supporting role for all of the target sub-sectors. Thus, the prominent occupations in this field, and the educational and workforce institutions that prepare employees for the opportunities, will provide an important foundation for broad A&D cluster growth across all the target sub-sectors.



| Information Technology, Systems Integration, Network Solutions and Telecommunications: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|----------------------------------|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 15-1031 | Computer Software Engineer | \$39.66 | \$39.95 | n/a | \$31.50 | Bachelor's Degree |
| 15-1021 | Computer Programmer | \$29.09 | \$22.37 | \$34.14 | \$27.62 | Bachelor's Degree |
| 15-1051 | Computer Systems Analyst | \$33.46 | \$28.64 | \$25.37 | \$23.57 | Bachelor's Degree |
| 15-1041 | Computer Support Specialist | \$20.49 | \$15.98 | \$15.74 | \$17.28 | Associate's Degree |

Machinery and Equipment Wholesalers

The most prominent specialized occupation in this sector is Mobile Heavy Equipment Mechanic, an occupation that contributes 5 percent to sector employment. Job-seekers for this position need vocational school credentials, and can expect to earn approximately \$14-15/hour in Northwest Florida. Laborers in this sector, who comprise 4 percent of total employment, need only a high school diploma, and in general receive \$9-10/hour. This sub-sector is outlined in the following table. The workforce in this sector has relatively few links to the target sub-sectors.



| Machinery and Equipment Wholesalers: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|--|---|--|--|--|---|--|
| Occu- pation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Talla- hassee Median Hourly Wage | Minimum Educational Requirement |
| 49-3042 | Mobile Heavy Equipment Mechanic | \$19.15 | n/a | \$13.98 | \$14.93 | Vocational School |
| 53-7062 | Laborer and Freight, Stock and Material Mover, Hand | \$10.83 | \$9.89 | \$8.53 | \$9.04 | High School Diploma |

Maintenance, Repair and Overhaul

The MRO sector is dominated by the specialized occupation of Industrial Machinery Mechanic; this occupation generates some 12 percent of industry employment. Armed with at least a Bachelor’s degree, these employees in Northwest Florida earn \$15-\$20/hour. The next most prominent position in the sector is Welders and Cutters, who constitute 10 percent of the employment, earn \$11-15/hour, and must possess at least vocational school credentials. Other prominent occupations in the industry include Maintenance Workers, Aircraft Mechanics, Avionics Technicians, Electrical and Electronics Repairers. The wages and minimum educational requirements for these MRO positions are listed in the table below.

While not a high-wage sector, MRO is large in Northwest Florida, and is a valuable source of employment. In addition, the MRO workforce described above is an accurate representation of the MRO needs of several target sectors, including UAVs, VLJs, Air Cargo and Distribution, Avionics, and Air Transportation and Support Activities. The prominent occupations discussed in the following table, and the educational and workforce assets that prepare employees to fill the positions successfully, will play a key role in supporting the competitiveness of Northwest Florida in a variety of target sub-sectors.



| Maintenance, Repair and Overhaul: Prominent Occupations, Wages, and Minimum Educational Requirements | | | | | | |
|---|---|------------------------------------|--|--|---------------------------------------|--|
| Occupation Code | Prominent Occupations | National Median Hourly Wage | Ft. Walton Beach Median Hourly Wage | Panama City – Lynn Haven Median Hourly Wage | Tallahassee Median Hourly Wage | Minimum Educational Requirement |
| 49-9043 | Maintenance Workers, Machinery | \$18.19 | \$14.10 | \$14.13 | \$13.13 | Vocational School |
| 49-3011 | Aircraft Mechanics and Service Technicians | \$26.81 | \$20.43 | n/a | \$19.33 | Vocational School |
| 49-2091 | Avionics Technicians | \$26.77 | n/a | n/a | n/a | Vocational School |
| 49-2094 | Electrical and Electronics Repairers, Commercial and Industrial Equipment | \$19.87 | \$26.98 | \$24.73 | \$24.84 | Vocational School |
| 49-9041 | Industrial Machinery Mechanics | \$17.78 | \$20.53 | n/a | \$14.91 | Bachelor's Degree |
| 49-9042 | Maintenance and Repair Workers, General | \$16.16 | \$13.39 | \$12.91 | \$12.66 | High School Diploma |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | \$14.59 | \$14.49 | \$15.14 | \$11.01 | Vocational School |

National Security is not examined as an independent sector because it represents a broad array of positions corresponding to the needs of the area military facilities rather than a focused set of occupations.