



Industry Spotlight

Autonomous Vehicles

Polk County, Florida



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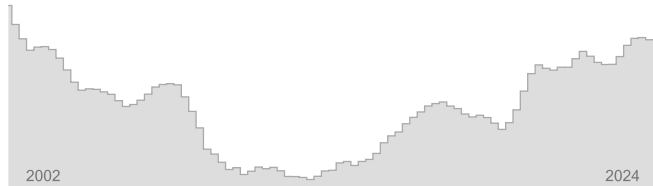
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Spotlight Summary

Autonomous Vehicles
Polk County, Florida – 2024Q1

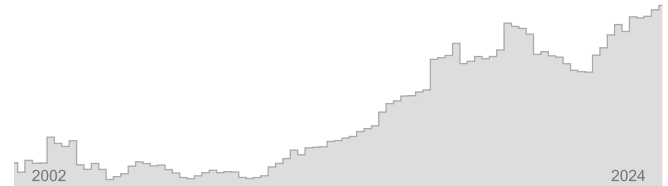
EMPLOYMENT



1,966

Regional employment / 7,609,956 in the nation

WAGES



\$69,738

Avg Wages per Worker / \$136,827 in the nation

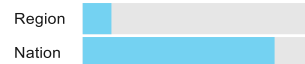
2.9% ↑

Avg Ann % Change Last 10 Years / +2.0% in the U.S.



0.7%

% of Total Employment / 4.6% in the U.S.

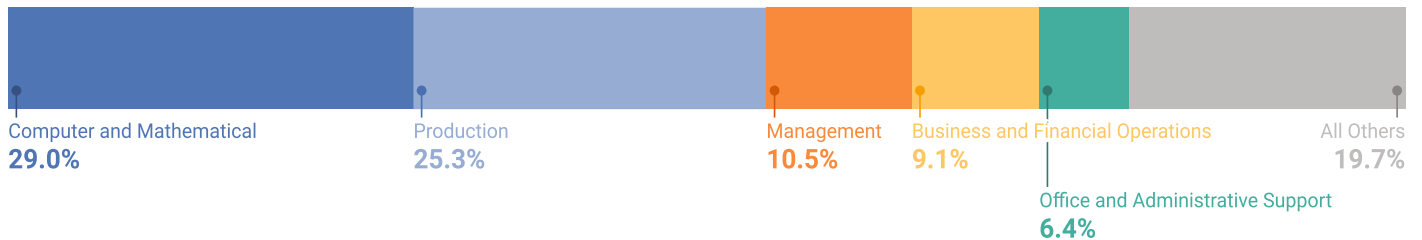


3.3% ↑

Avg Ann % Change Last 10 Years / +3.8% in the U.S.



TOP OCCUPATION GROUPS



TOP INDUSTRIES

Avg Ann % Change in Employment, Last 10 Years

4.9% ↑



Computer Systems Design and Related Services

3.9% ↑



Motor Vehicle Parts Manufacturing

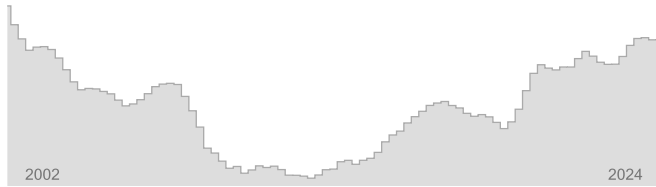
16.9% ↑



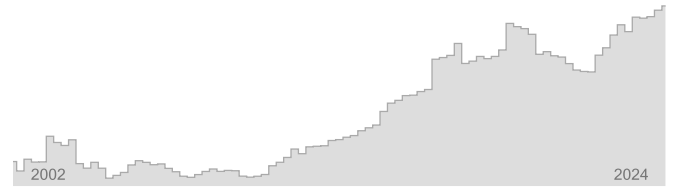
Scientific Research and Development Services

Industry Snapshot


EMPLOYMENT



WAGES

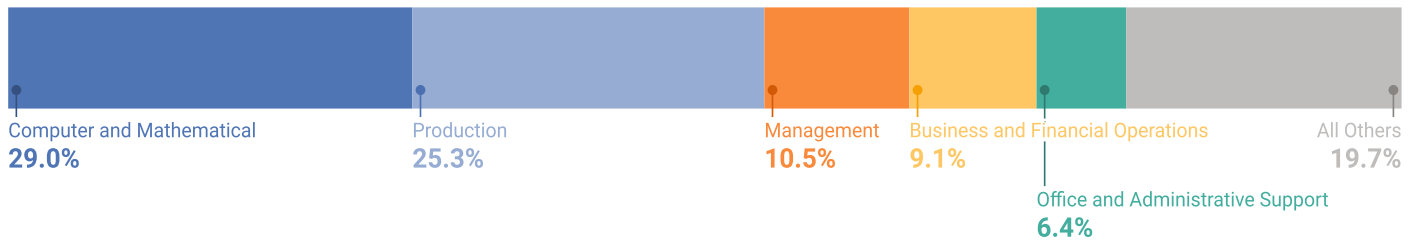


4-Digit Industry	Empl	Avg Ann Wages	LQ	5yr History	Annual Demand	Forecast Ann Growth
Computer Systems Design and Related Services	811	\$92,632	0.18		85	3.5%
Motor Vehicle Parts Manufacturing	415	\$36,527	0.43		46	0.8%
Scientific Research and Development Services	167	\$67,953	0.10		17	2.8%
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	104	\$79,505	0.14		11	2.4%
Motor Vehicle Body and Trailer Manufacturing	104	\$54,731	0.36		13	2.3%
Motor Vehicle Manufacturing	80	\$35,855	0.16		11	2.6%
Aerospace Product and Parts Manufacturing	22	\$57,352	0.02		2	2.5%
Communications Equipment Manufacturing	20	\$58,310	0.14		2	1.9%
Ship and Boat Building	17	\$61,329	0.05		2	1.4%
Semiconductor and Other Electronic Component Manufacturing	16	\$42,629	0.02		2	2.5%
Remaining Component Industries	34	\$57,449	0.18		3	1.0%
Autonomous Vehicles	1,966	\$69,738	0.15		215	2.5%


 Employment is one of the broadest and most timely measures of a region's economy. Fluctuations in the number of jobs shed light on the health of an industry. A growing employment base creates more opportunities for regional residents and helps a region grow its population.

 Since wages and salaries generally compose the majority of a household's income, the annual average wages of a region affect its average household income, housing market, quality of life, and other socioeconomic indicators.

Staffing Pattern



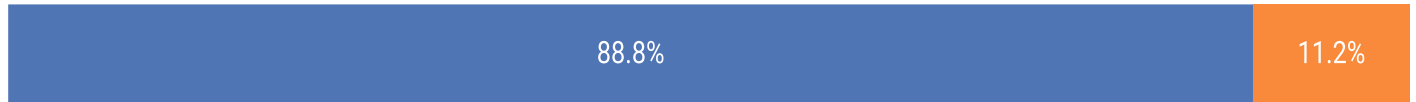
6-digit Occupation	Empl	Avg Ann Wages	Annual Demand
Software Developers	184	\$113,200	19
Team Assemblers	180	\$45,500	25
Computer User Support Specialists	68	\$57,900	7
Computer Systems Analysts	57	\$110,200	6
Computer and Information Systems Managers	38	\$166,900	4
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	37	\$94,700	5
General and Operations Managers	36	\$165,800	4
Managers, All Other	35	\$168,600	4
Computer Occupations, All Other	34	\$91,900	3
Welders, Cutters, Solderers, and Brazers	30	\$44,100	4
Remaining Component Occupations	1,058	\$78,000	123
Total	1,755		

 The mix of occupations points to the ability of a region to support an industry and its flexibility to adapt to future demand. Industry wages are a component of the cost of labor for regional employers.

Employment Distribution by Type

The table below shows the employment mix by ownership type for Autonomous Vehicles for Polk County, Florida. Four of these ownership types — federal, state, and local government and the private sector — together constitute “Covered Employment” (employment covered by the Unemployment Insurance programs of the United States and reported via the Quarterly Census of Employment and Wages).

“Self-Employment” refers to unincorporated self-employment and represents workers whose primary job is self-employment (that is, these data do not include workers whose primary job is a wage-and-salary position that is supplemented with self-employment).



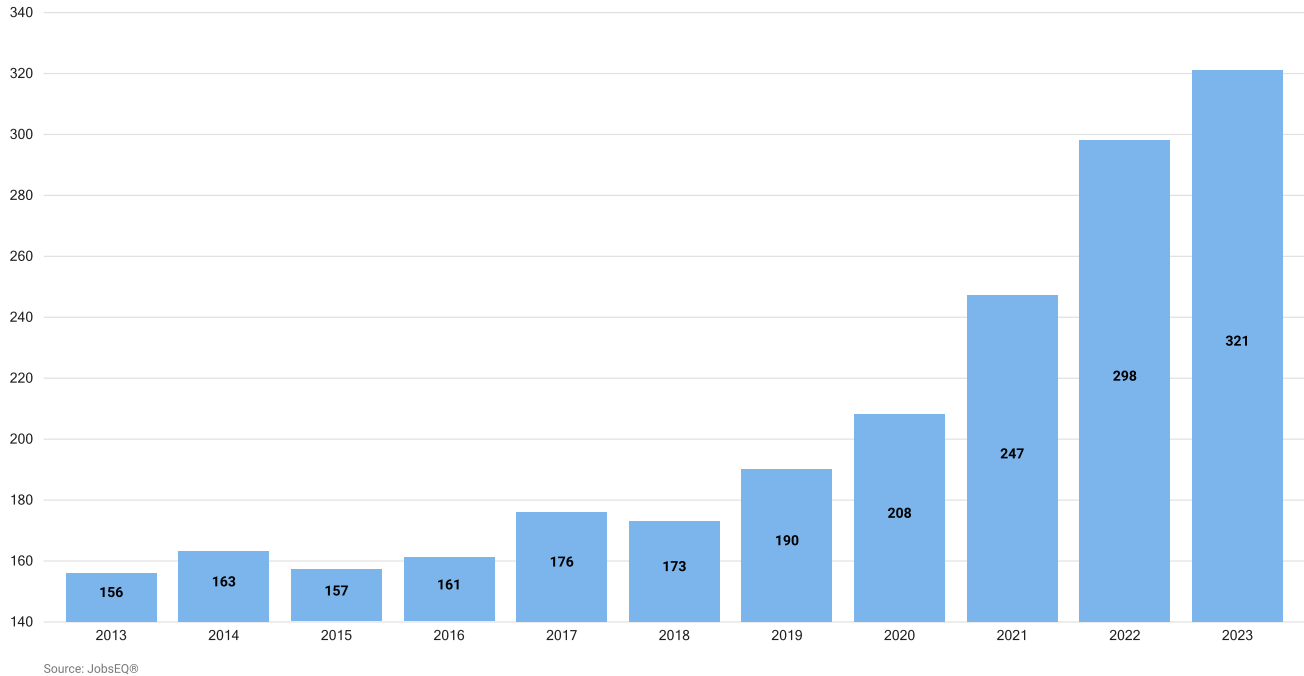
	Empl	%
Private	1,746	88.8%
Self-Employment	220	11.2%


Source: JobsEQ®

 Strong entrepreneurial activity is indicative of growing industries. Using self-employment as a proxy for entrepreneurs, a higher share of self-employed individuals within a regional industry points to future growth.

Establishments

In 2023, there were 321 Autonomous Vehicles establishments in Polk County, Florida (per covered employment establishment counts), an increase from 156 establishments ten years earlier in 2013.

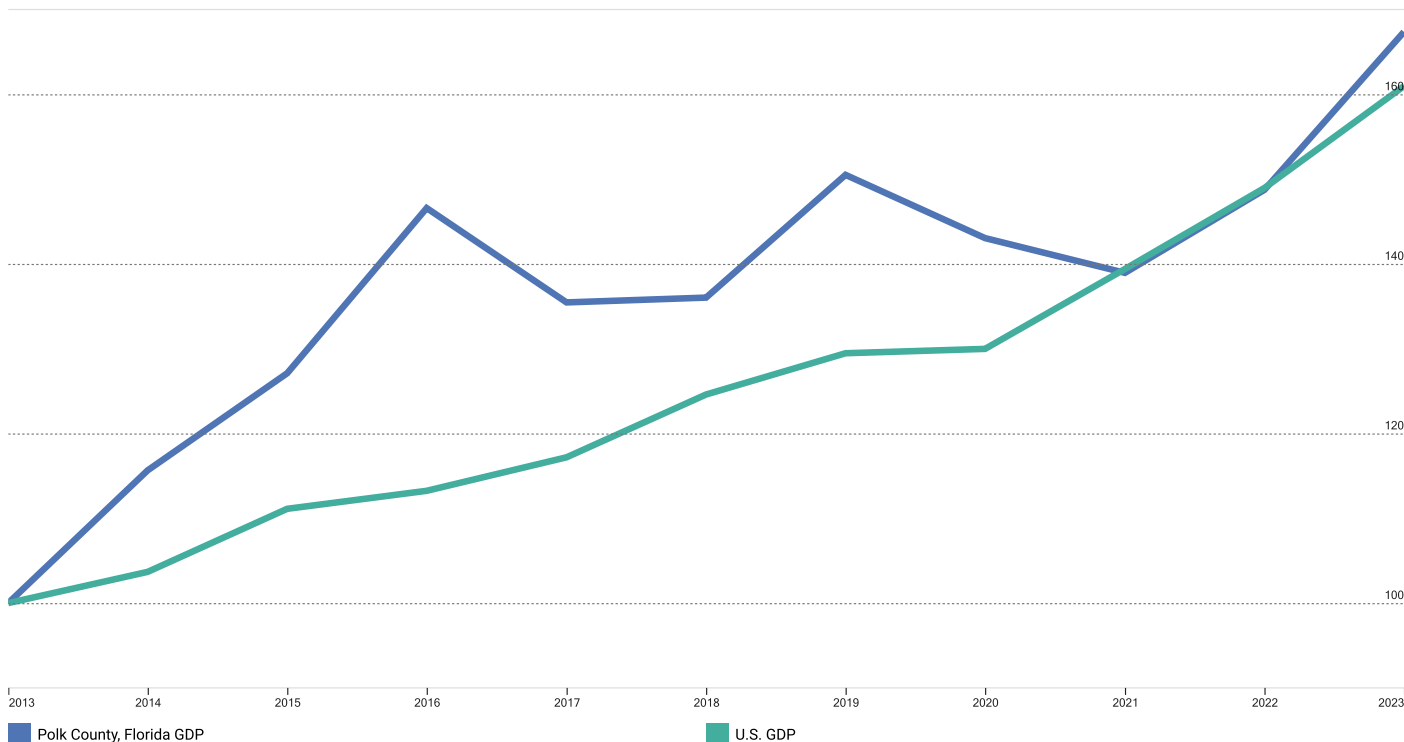


 New business formations are an important source of job creation in a regional economy, spurring innovation and competition, and driving productivity growth. Establishment data can provide an indicator of growth in businesses by counting each single location (such as a factory or a store) where business activity takes place, and with at least one employee.

GDP & Productivity

In 2023, Autonomous Vehicles produced \$0.2 billion in GDP for Polk County, Florida.

GDP: Indexed 2013 = 100



0.6 %

Industry Share of Total GDP /
6.4 % in the nation



5.3 % ↑

Avg Ann % Change Last 10 Yrs /
4.9 % in the nation



\$351k

Output per Worker /
\$518k in the nation



💡 Gross domestic product (GDP) is the most comprehensive measure of regional economic activity, and an industry's contribution to GDP is an important indicator of regional industry strength. It is a measure of total value-added to a regional economy in the form of labor income, proprietor's income, and business profits, among others. GDP values shown on this page are nominal GDP data.

💡 Growth in productivity (output per worker) leads to increases in wealth and higher average standards of living in a region.

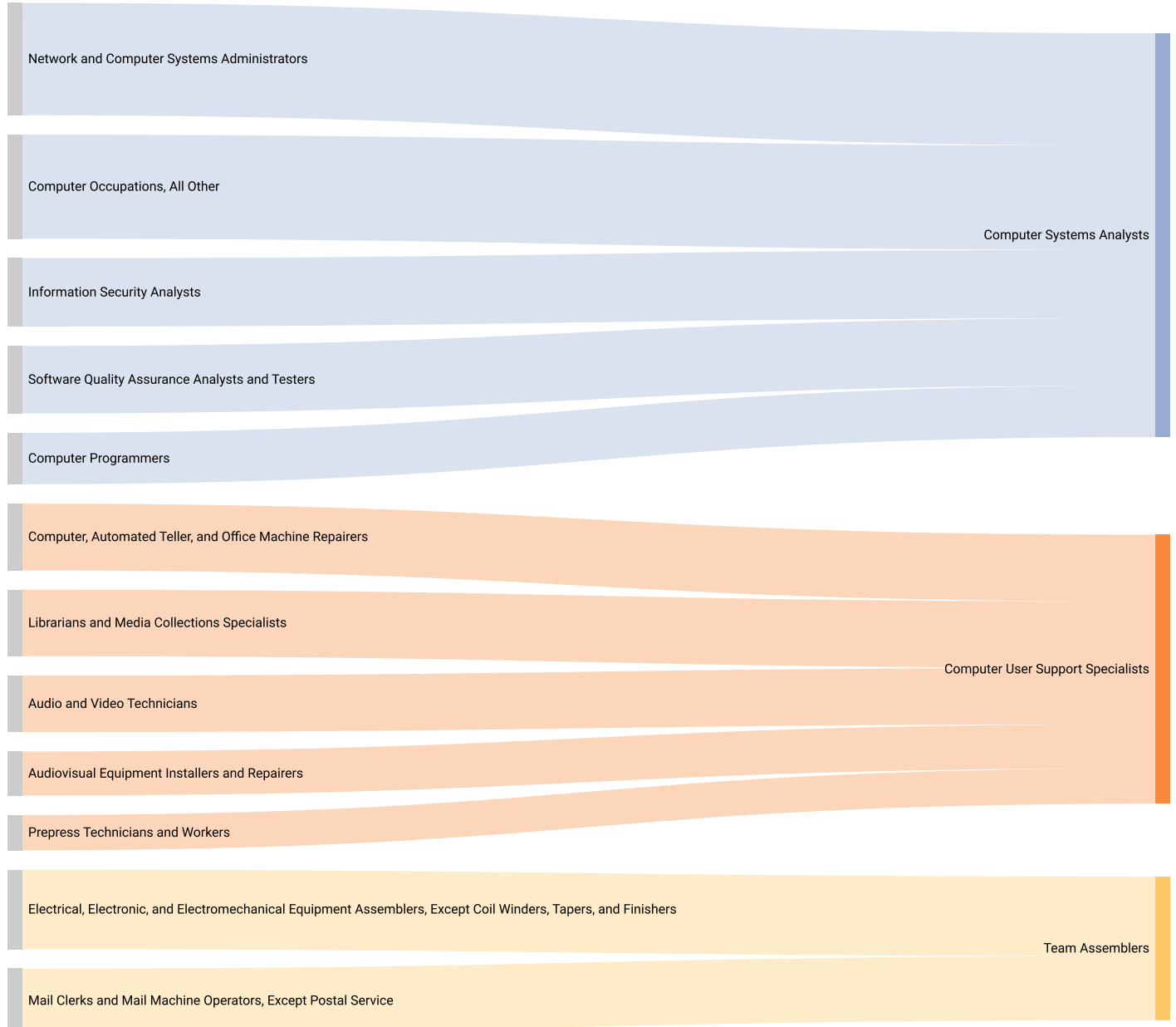
Supply Chain: Top Suppliers


As of 2024Q1, Autonomous Vehicles in Polk County, Florida are estimated to make \$299.1 million in annual purchases from suppliers in the United States with about 48% or \$144.6 million of these purchases being made from businesses located in Polk County, Florida.

4-digit Supplier Industries	Purchases from In-Region (\$M)	Purchases from Out-of-Region (\$M)
Motor Vehicle Parts Manufacturing	\$26.9	\$18.0
Iron and Steel Mills and Ferroalloy Manufacturing	\$11.8	\$0.4
Engine, Turbine, and Power Transmission Equipment Manufacturing	\$3.1	\$8.0
Management of Companies and Enterprises	\$9.7	\$0.7
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	\$5.5	\$3.2
Remaining Supplier Industries	\$87.6	\$124.2
Total	\$144.6	\$154.5

 Supplier-buyer networks can indicate local linkages between industries, regional capacity to support growth in an industry, and potential leakage of sales out of the region.

Sector Strategy Pathways





 The graphics on this page illustrate relationships and potential movement (from left to right) between occupations that share similar skill sets. Developing career pathways as a strategy promotes industry employment growth and workforce engagement.

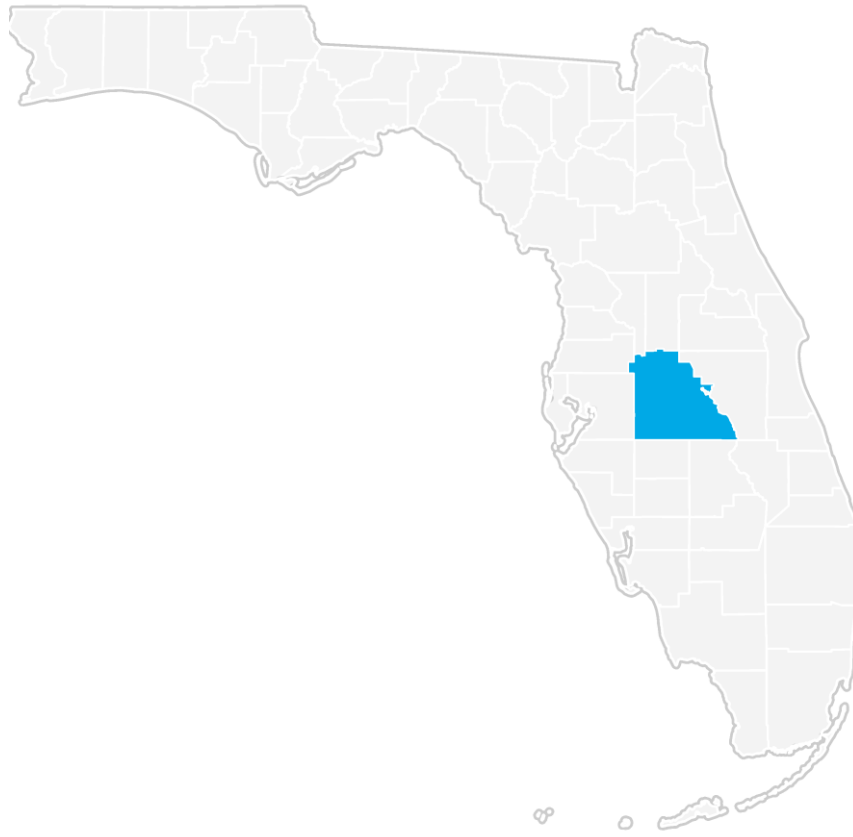
Postsecondary Programs Linked to Autonomous Vehicles

Program	Awards
Polk State College	
Business Administration and Management, General	49
Computer Programming/Programmer, General	9
Engineering Technologies/Technicians, General	31
Information Technology	5
Network and System Administration/Administrator	9
Web Page, Digital/Multimedia and Information Resources Design	9
Ridge Technical College	
Computer Systems Networking and Telecommunications	7
Welding Technology/Welder	27
Traviss Technical College	
Computer Systems Networking and Telecommunications	19
Welding Technology/Welder	13

Source: [JobsEQ®](#)

-  The number of graduates from postsecondary programs in the region identifies the pipeline of future workers as well as the training capacity to support industry demand.
-  Among postsecondary programs at schools located in Polk County, Florida, the sampling above identifies those most linked to occupations relevant to Autonomous Vehicles. For a complete list see JobsEQ®, <http://www.chmuraecon.com/jobseq>

Polk County, Florida Regional Map



Data Notes

- Industry employment and wages (including total regional employment and wages) are as of 2024Q1 and are based upon BLS QCEW data, imputed by Chmura where necessary, and supplemented by additional sources including Census ZBP data. Employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts.
- Occupation employment is as of 2024Q1 and is based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS OEWS data. Wages by occupation are as of 2024, utilizing BLS OEWS data and imputed by Chmura.
- GDP is derived from BEA data and imputations by Chmura. Productivity (output per worker) is calculated by Chmura using industry employment and wages as well as GDP and BLS output data. Supply chain modeling including purchases by industry are developed by Chmura.
- Postsecondary awards are per the NCES and are for the 2022-2023 academic year.
- Establishment counts are per the BLS QCEW data.
- Figures may not sum due to rounding.

Industry Definition

Autonomous Vehicles is defined as the following NAICS industries:

Code	Description
3341	Computer and Peripheral Equipment Manufacturing
3342	Communications Equipment Manufacturing
3343	Audio and Video Equipment Manufacturing
3344	Semiconductor and Other Electronic Component Manufacturing
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing
3346	Manufacturing and Reproducing Magnetic and Optical Media
3361	Motor Vehicle Manufacturing
3362	Motor Vehicle Body and Trailer Manufacturing
3363	Motor Vehicle Parts Manufacturing
3364	Aerospace Product and Parts Manufacturing
3365	Railroad Rolling Stock Manufacturing
3366	Ship and Boat Building
3369	Other Transportation Equipment Manufacturing
5415	Computer Systems Design and Related Services
5417	Scientific Research and Development Services

FAQ

What is (LQ) location quotient?

Location quotient is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is annual demand?

Annual demand is a of the sum of the annual projected growth demand and separation demand. Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. Growth demand is the increase or decrease of jobs expected due to expansion or contraction of the overall number of jobs.

What is the difference between industry wages and occupation wages?

Industry wages and occupation wages are estimated via separate data sets, often the time periods being reported do not align, and wages are defined slightly differently in the two systems (for example, certain bonuses are included in the industry wages but not the occupation wages). It is therefore common that estimates of the average industry wages and average occupation wages in a region do not match exactly.