



Alabama  
Department of Labor

Labor Market Information  
James Henry, Division Director

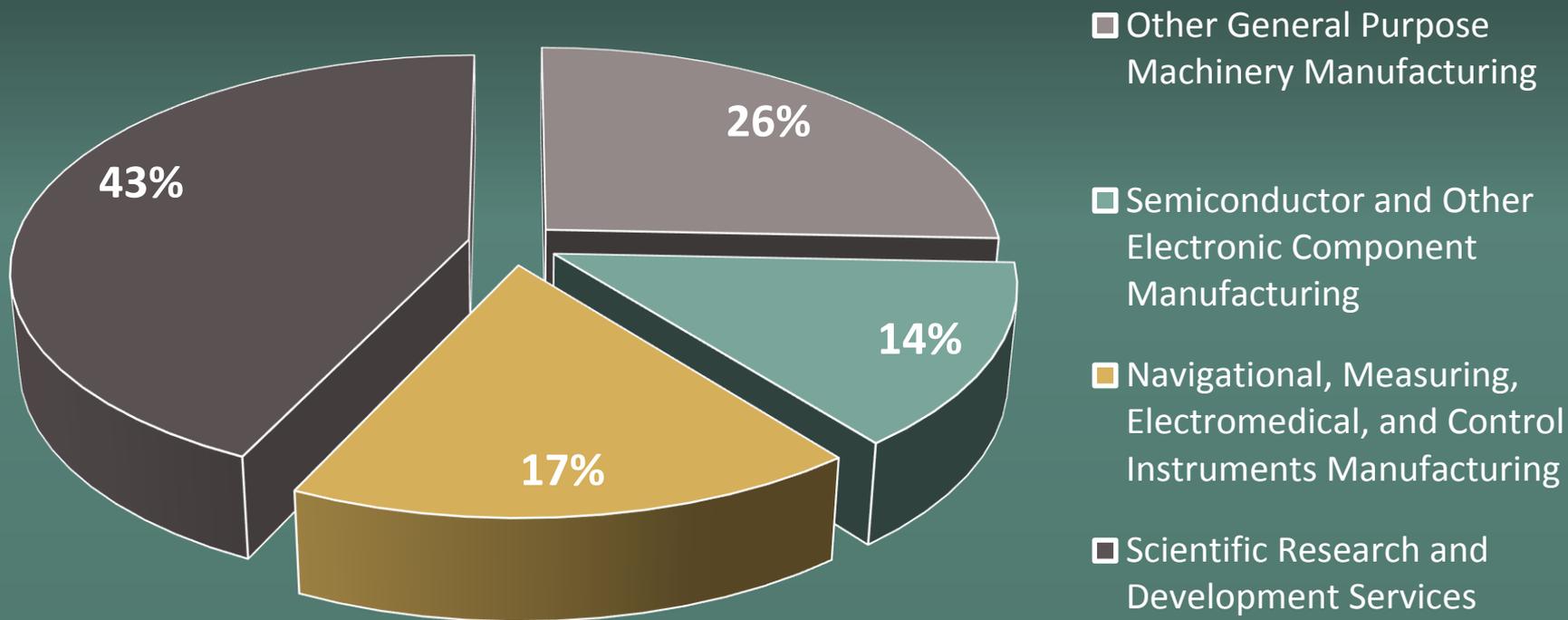


# Accelerate Alabama Enabling Technology

Alabama Department of Labor  
Labor Market Information Division



# Alabama Enabling Technology Employment by Industry Sectors





## Alabama Enabling Technology Industry Overview

Sector	# of Companies	# Employed
Other General Purpose Machinery Manufacturing	101	3,245
Semiconductor and Other Electronic Component Manufacturing	47	1,746
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	55	2,218
Scientific Research and Development Services	316	5,443



# Other General Purpose Machinery Manufacturing

**3339: 33391 Pump and Compressor Manufacturing** This industry comprises establishments primarily engaged in manufacturing pumps and compressors, such as general purpose air and gas compressors, nonagricultural spraying and dusting equipment, general purpose pumps and pumping equipment (except fluid power pumps and motors), and measuring and dispensing pumps. **33392: Material Handling Equipment Manufacturing** This industry comprises establishments primarily engaged in manufacturing material handling equipment, such as elevators and moving stairs; conveyors and conveying equipment; overhead traveling cranes, hoists, and monorail systems; and industrial trucks, tractors, trailers, and stacker machinery.

101 companies; 3,245 employed;  
26% of Robotics Industry Employment

# of Employees	% of Companies
1-49	83%
50-99	11%
100-249	4%
250+	2%

## Top 5 Job Categories:

- 12% Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 11% Welders, Cutters, Solderers, and Brazers
- 9% Machinists
- 5% Helpers--Production Workers
- 4% Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

**Source:** Quarterly Census of Employment and Wages, 2014 annual average. *Note: Numbers may not equal 100% due to rounding.*

**Source:** 2015 Release of the Occupational Employment Statistics (OES) Report in cooperation with the Bureau of Labor Statistics. Wage data aged using latest Employment Cost Index (ECI) factors.



# Other General Purpose Machinery Manufacturing Firm Age Workforce Indicators

Firm Age	Employment	Monthly Earnings	Monthly Earnings New Hires	Turnover
0 – 1 Year	39	\$4,564	\$2,055	*
2 – 3 Years	*	\$4,323	*	*
4 – 5 Years	119	\$3,935	\$2,746	11.6%
6 – 10 Years	84	\$3,373	\$2,762	14.9%
11+ Years	2,733	\$4,519	\$3,373	4.5%
All Firm Ages	3,032	\$4,459	\$3,265	5.1%

Source: Local Employment Household Dynamics Partnership between Alabama Department of Labor, Labor Market Information Division, and the U.S. Census Bureau, LED Extraction Tool; 2014 annual average data shown. \*Data not available or marked confidential. Note: Data may not add due to rounding.



# Semiconductor and Other Electronic Component Manufacturing

## 3344 Semiconductor and Other Electronic Component Manufacturing

This industry comprises establishments primarily engaged in manufacturing semiconductors and other components for electronic applications. Examples of products made by these establishments are capacitors, resistors, microprocessors, bare and loaded printed circuit boards, electron tubes, electronic connectors, and computer modems.

47 companies; 1,746 employed;  
14% of Robotics Industry Employment

# of Employees	% of Companies
1-49	79%
50-99	9%
100-249	11%
250+	1%

**Source:** Quarterly Census of Employment and Wages, 2014 annual average. *Note: Numbers may not equal 100% due to rounding.*

### Top 5 Job Categories:

- 31% Electrical and Electronic Equipment Assemblers
- 6% Team Assemblers
- 5% Inspectors, Testers, Sorters, Samplers, and Weighers
- 4% Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
- 3% Industrial Engineers

**Source:** 2015 Release of the Occupational Employment Statistics (OES) Report in cooperation with the Bureau of Labor Statistics. Wage data aged using latest Employment Cost Index (ECI) factors.



## Semiconductor and Other Electronic Component Manufacturing Firm Age Workforce Indicators

Firm Age	Employment	Monthly Earnings	Monthly Earnings New Hires	Turnover
0 – 1 Year	27	*	*	2.1%
2 – 3 Years	*	\$2,205	\$1,852	*
4 – 5 Years	*	*	*	*
6 – 10 Years	16	\$3,848	*	*
11+ Years	1,545	\$4,412	\$3,133	4.5%
All Firm Ages	1,608	\$4,356	\$3,227	5.0%



# Navigational, Measuring, Electromedical, and Control Instruments Manufacturing

## 3345 Navigational, Measuring, Electromedical, and Control Instruments Manufacturing

This industry comprises establishments primarily engaged in manufacturing navigational, measuring, electromedical, and control instruments. Examples of products made by these establishments are aeronautical instruments, appliance regulators and controls (except switches), laboratory analytical instruments, navigation and guidance systems, and physical properties testing equipment.

55 companies; 2,218 employed;  
17% of Robotics Industry Employment

# of Employees	% of Companies
1-49	82%
50-99	4%
100-249	11%
250+	2%

### Top 5 Job Categories:

- 18% Electrical and Electronic Equipment Assemblers
- 7% Machinists
- 6% Electrical Engineers
- 5% Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic
- 5% Electrical and Electronics Engineering Technicians

**Source:** Quarterly Census of Employment and Wages, 2014 annual average. *Note: Numbers may not equal 100% due to rounding.*

**Source:** 2015 Release of the Occupational Employment Statistics (OES) Report in cooperation with the Bureau of Labor Statistics. Wage data aged using latest Employment Cost Index (ECI) factors.



# Navigational, Measuring, Electromedical, and Control Instruments Manufacturing Firm Age Workforce Indicators

Firm Age	Employment	Monthly Earnings	Monthly Earnings New Hires	Turnover
0 – 1 Year	*	*	*	*
2 – 3 Years	111	\$6,159	\$4,334	12.2%
4 – 5 Years	*	\$4,381	*	*
6 – 10 Years	22	\$4,798	*	7.1%
11+ Years	2,047	\$5,578	\$4,168	2.8%
All Firm Ages	2,188	\$5,598	\$4,194	3.3%

Source: Local Employment Household Dynamics Partnership between Alabama Department of Labor, Labor Market Information Division, and the U.S. Census Bureau, LED Extraction Tool; 2014 annual average data shown. *\*Data not available or marked confidential. Note: Data may not add due to rounding.*



# Scientific Research and Development Services

## 5417 Scientific Research and Development Services

This industry group comprises establishments engaged in conducting original investigation undertaken on a systematic basis to gain new knowledge (research) and/or the application of research findings or other scientific knowledge for the creation of new or significantly improved products or processes (experimental development). The industries within this industry group are defined on the basis of the domain of research; that is, on the scientific expertise of the establishment.

316 companies; 5,443 employed;  
43% of Robotics Industry Employment

# of Employees	% of Companies
1-49	93%
50-99	4%
100-249	2%
250+	1%

**Source:** Quarterly Census of Employment and Wages, 2014 annual average. *Note: Numbers may not equal 100% due to rounding.*

### Top 5 Job Categories:

- 12% Computer Systems Analysts
- 7% Software Developers, Systems Software
- 4% Software Developers, Applications
- 4% Electrical Engineers
- 4% Industrial Engineers

**Source:** 2015 Release of the Occupational Employment Statistics (OES) Report in cooperation with the Bureau of Labor Statistics. Wage data aged using latest Employment Cost Index (ECI) factors.



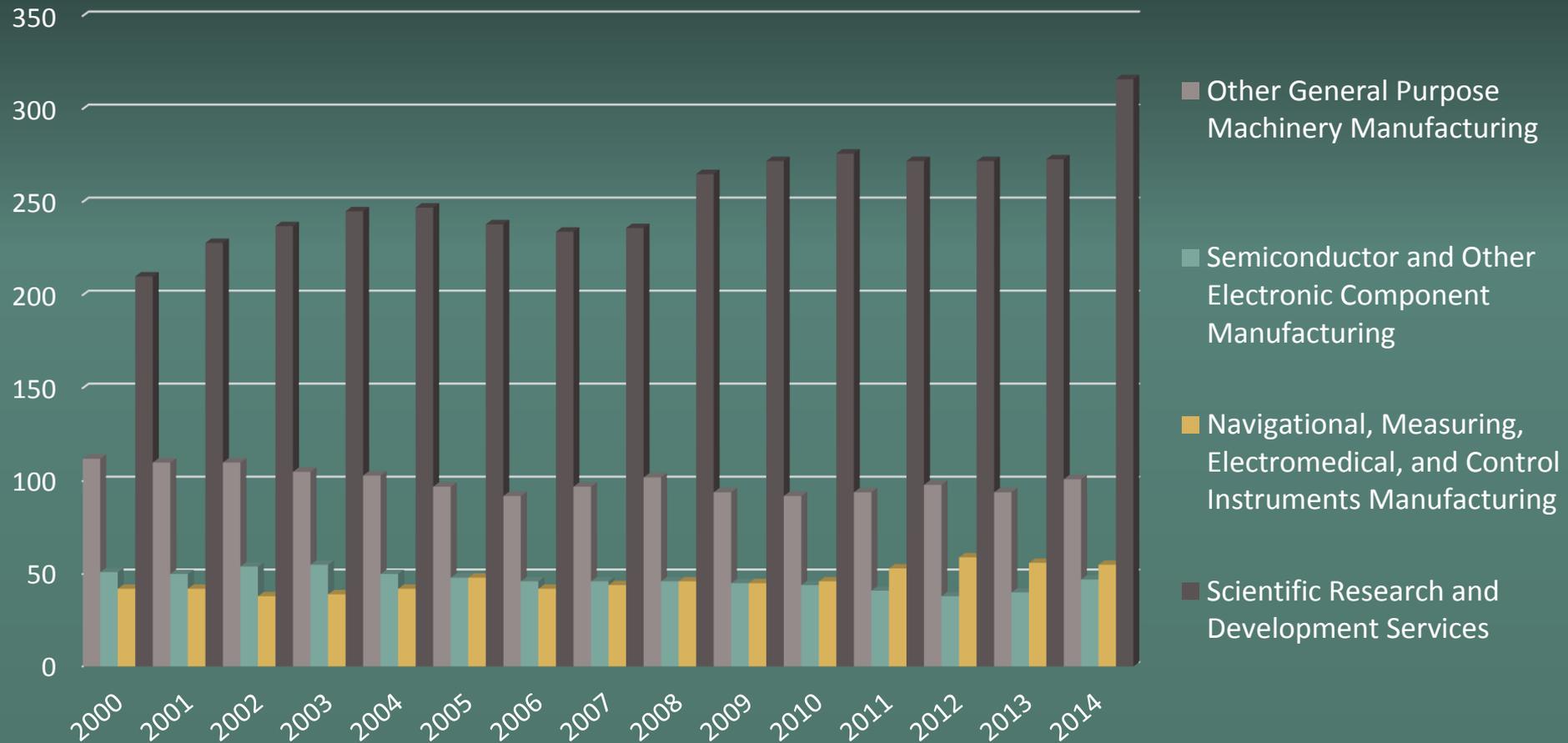
# Scientific Research and Development Services Firm Age Workforce Indicators

Firm Age	Employment	Monthly Earnings	Monthly Earnings New Hires	Turnover
0 – 1 Year	35	\$4,657	\$2,907	14.2%
2 – 3 Years	66	\$4,877	\$3,303	10.0%
4 – 5 Years	58	\$3,929	\$2,965	13.4%
6 – 10 Years	295	\$5,337	\$4,619	7.7%
11+ Years	4,447	\$7,439	\$5,433	4.5%
All Firm Ages	4,901	\$7,216	\$5,105	5.0%

Source: Local Employment Household Dynamics Partnership between Alabama Department of Labor, Labor Market Information Division, and the U.S. Census Bureau, LED Extraction Tool; 2014 annual average data shown. *\*Data not available or marked confidential. Note: Data may not add due to rounding.*

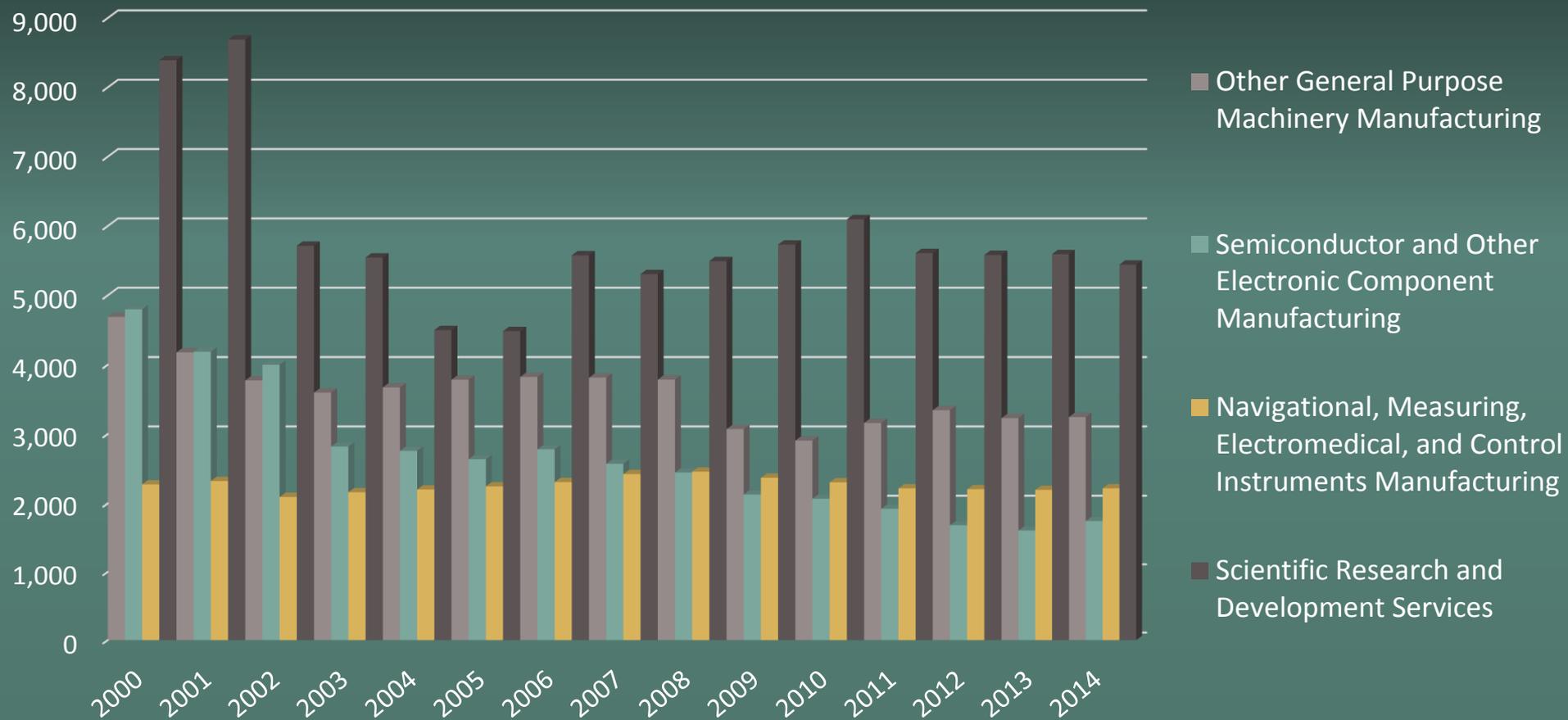


# Development of Alabama's Robotics Industry by Company





# Development of Alabama's Robotics Industry by Employment





## Top Occupations for Robotics by Rounded Employment

Occupations	# of Jobs	% of Total
Electrical and Electronic Equipment Assemblers	1,010	8%
Computer Systems Analysts	670	5%
Machinists	490	4%
Software Developers, Systems Software	450	4%
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	400	3%
Welders, Cutters, Solderers, and Brazers	400	3%
Electrical Engineers	380	3%
Industrial Engineers	330	3%
Team Assemblers	310	2%
Remaining Occupations	8,210	65%



# Wage Information

## Top 10 by Rounded Occupational Employment

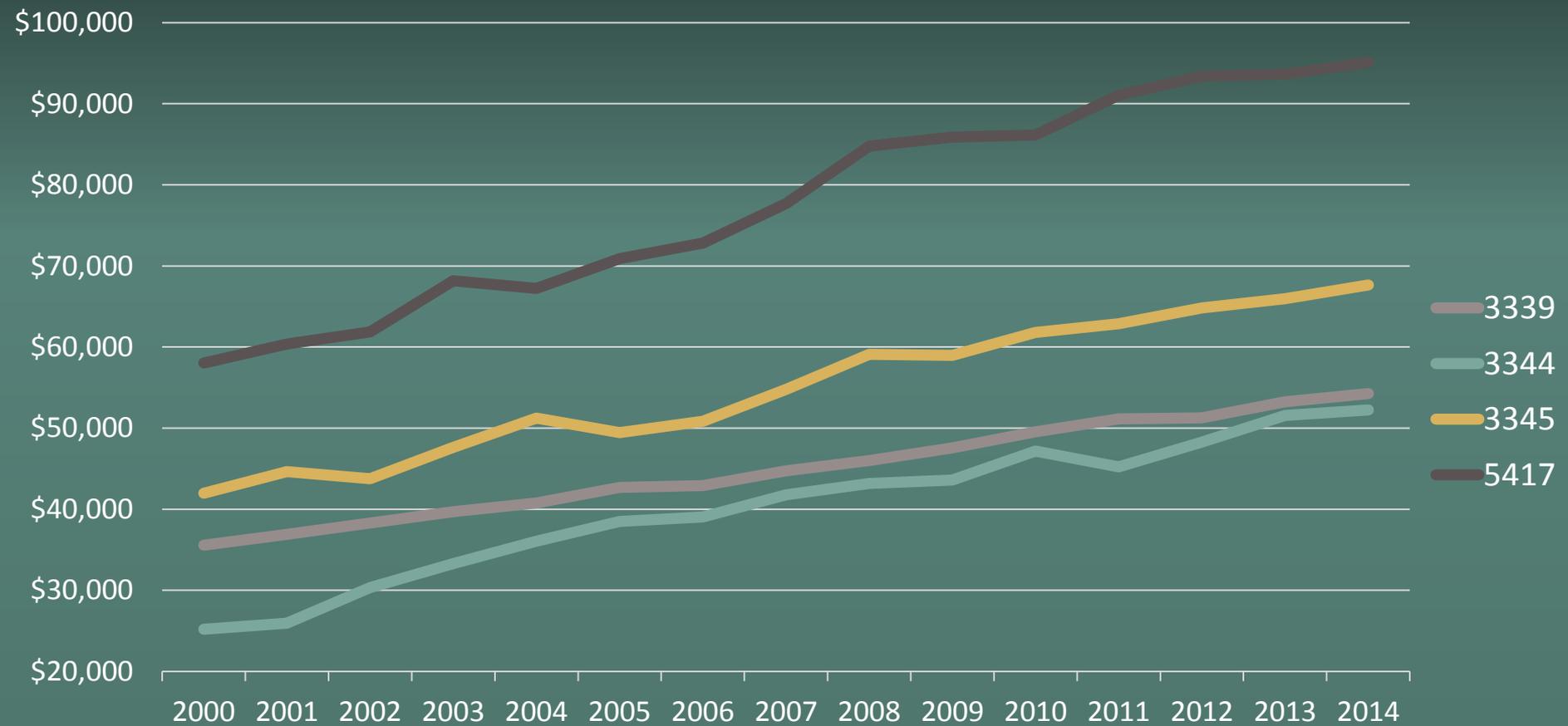
Occupation	Rounded Emp.	Mean Hourly	Mean Annual	Entry Hourly	Entry Annual	Experience Hourly	Experience Annual
Electrical and Electronic Equipment Assemblers	1,010	\$15.08	\$31,371	\$9.87	\$20,523	\$17.70	\$36,800
Computer Systems Analysts	670	\$37.70	\$78,427	\$26.74	\$55,614	\$43.19	\$89,833
Machinists	490	\$19.73	\$41,036	\$13.09	\$27,217	\$23.05	\$47,935
Software Developers, Systems Software	450	\$48.90	\$101,698	\$32.12	\$66,806	\$57.28	\$119,139
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	400	\$15.92	\$33,098	\$11.05	\$22,991	\$18.34	\$38,157
Welders, Cutters, Solderers, and Brazers	400	\$18.34	\$38,157	\$12.91	\$26,867	\$21.06	\$43,802
Electrical Engineers	380	\$46.93	\$97,621	\$30.75	\$63,963	\$55.02	\$114,450
Industrial Engineers	330	\$43.43	\$90,353	\$29.88	\$62,138	\$50.22	\$104,460
Team Assemblers	310	\$17.23	\$35,854	\$10.55	\$21,932	\$20.58	\$42,805
Purchasing Agents, Except Wholesale, Retail, and Farm Products	260	\$32.49	\$67,576	\$19.64	\$40,834	\$38.91	\$80,941

Source: 2015 release of the Occupational Employment Statistics (OES) Report in cooperation with the Bureau of Labor Statistics; wage data aged using the most current Employment Cost Index (ECI) factors. Annual wage information rounded to the nearest whole dollar. *Note: Data reflects wages across all industries, not specifically to respective industry cluster.*



# Wage Information

## Total Wages by NAICS Code 2000-2014



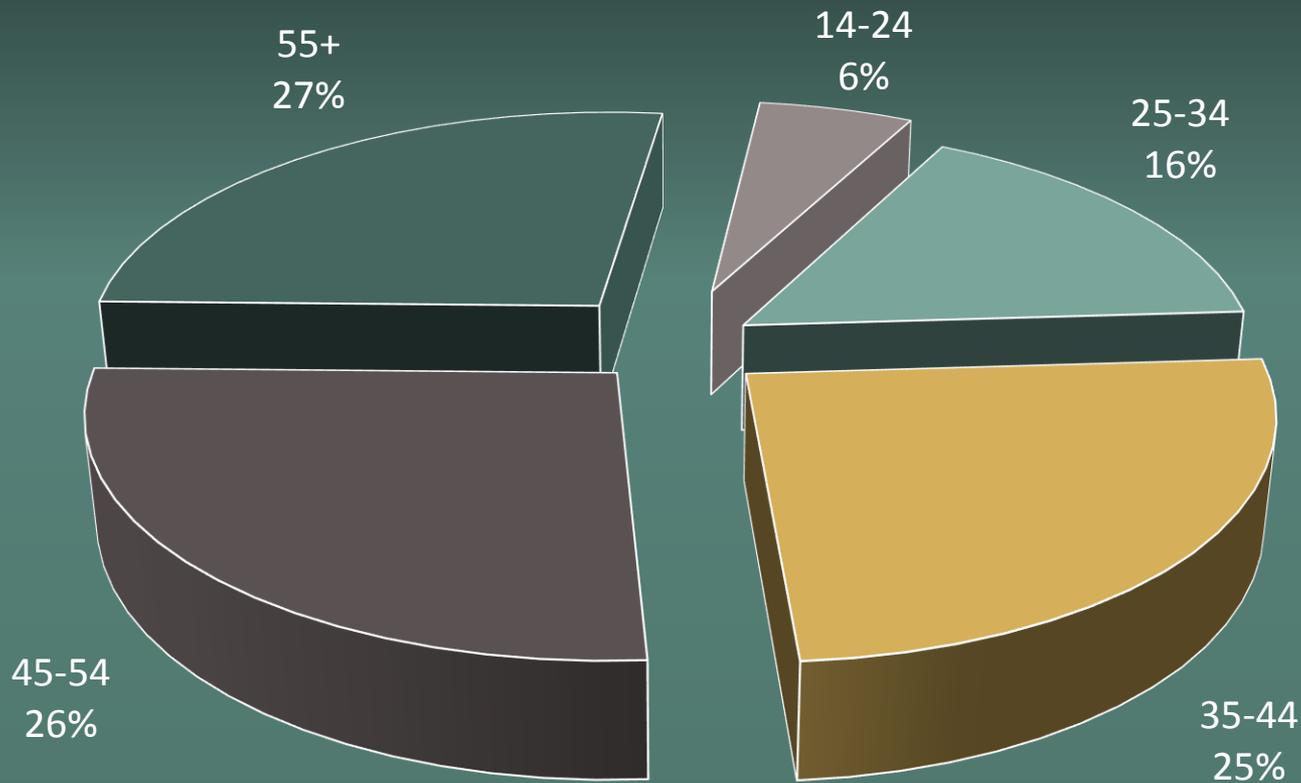


## 2014 Quarterly Workforce Indicators

NAICS	Industry	Average Turnover Rate	Average Job Gains	Average Net Job Flows	Average Monthly Earnings	Average Monthly Earnings – New Hires
3339	Other General Purpose Machinery Manufacturing	5.1%	77	-10	\$4,459	\$3,265
3344	Semiconductor and Other Electronic Component Manufacturing	5.0%	42	4	\$4,356	\$3,227
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	3.3%	39	3	\$5,598	\$4,194
5417	Scientific Research and Development Services	5.0%	121	-5	\$7,216	\$5,105

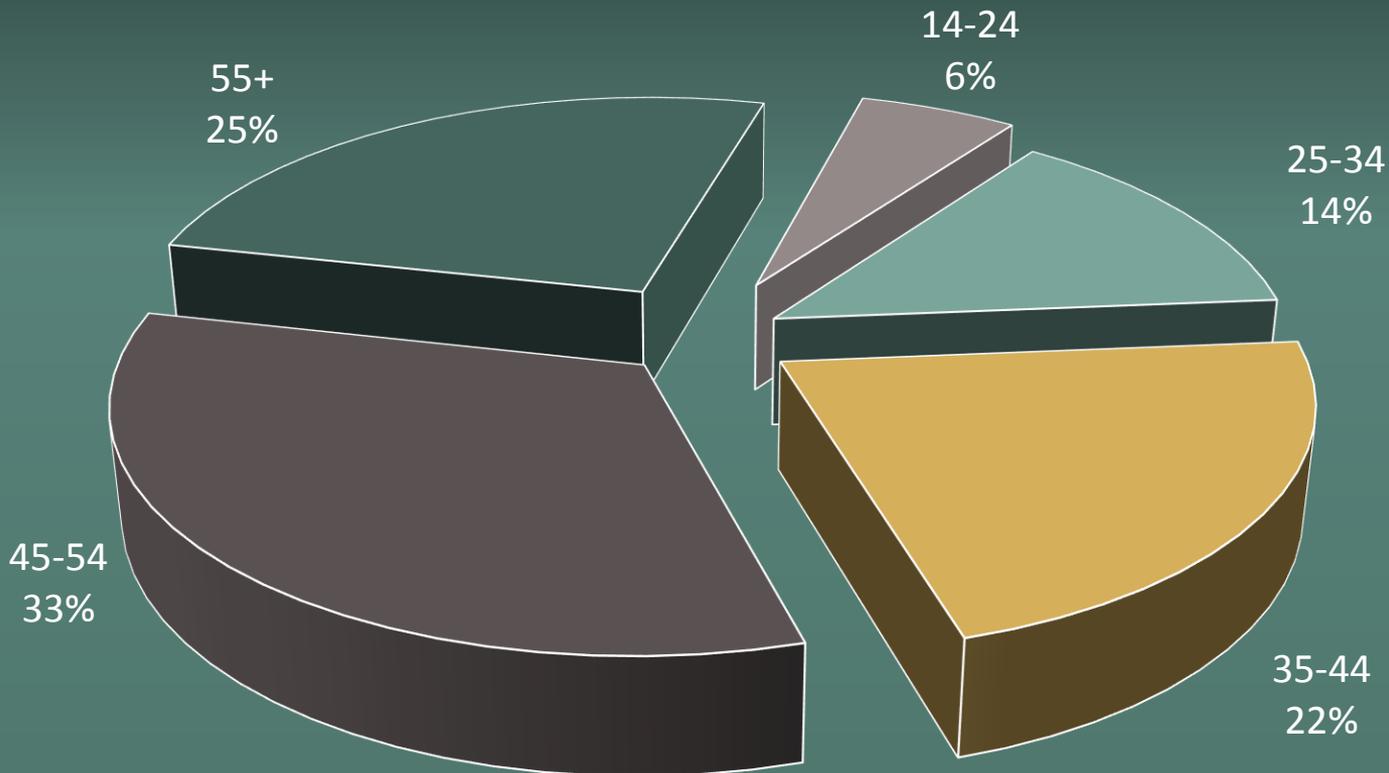


# 3339 Other General Purpose Machinery Manufacturing 2014 Average Annual Employment by Age Group



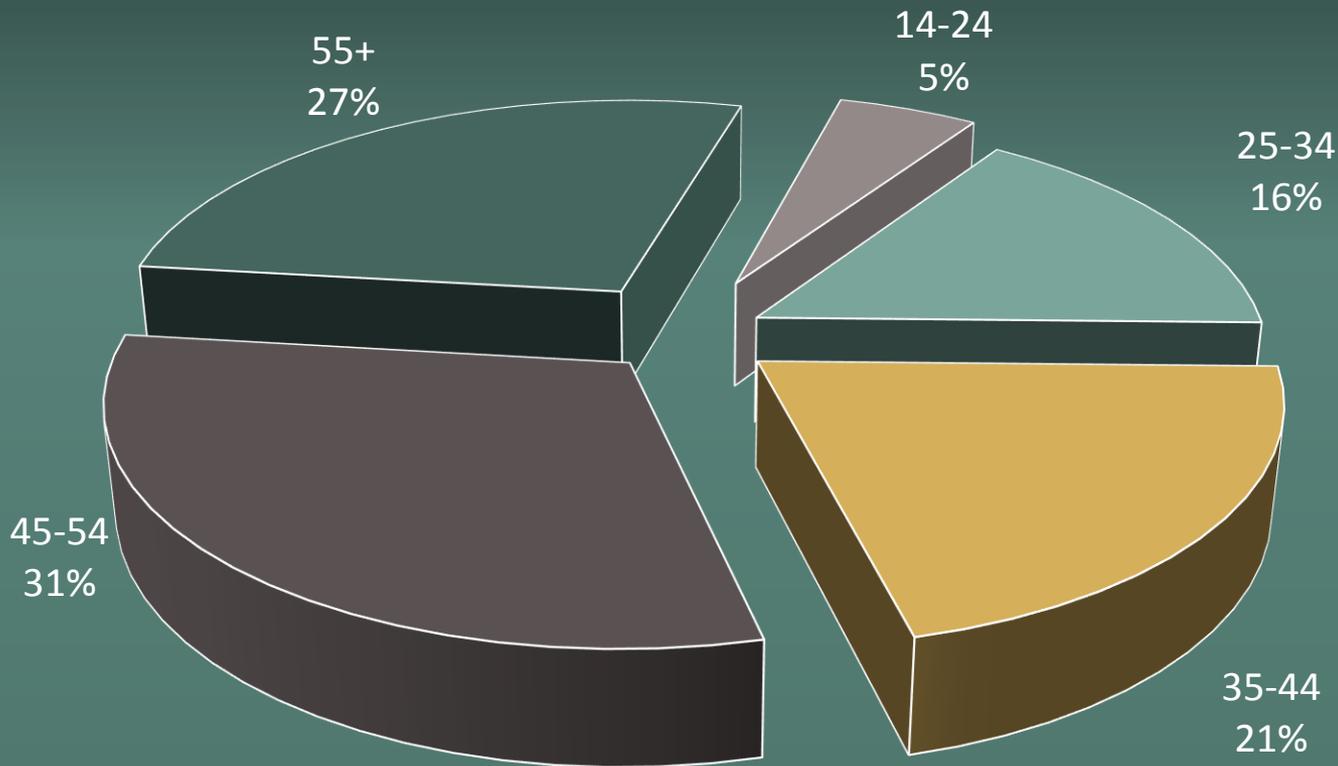


# 3344 Semiconductor and Other Electronic Component Manufacturing 2014 Average Annual Employment by Age Group



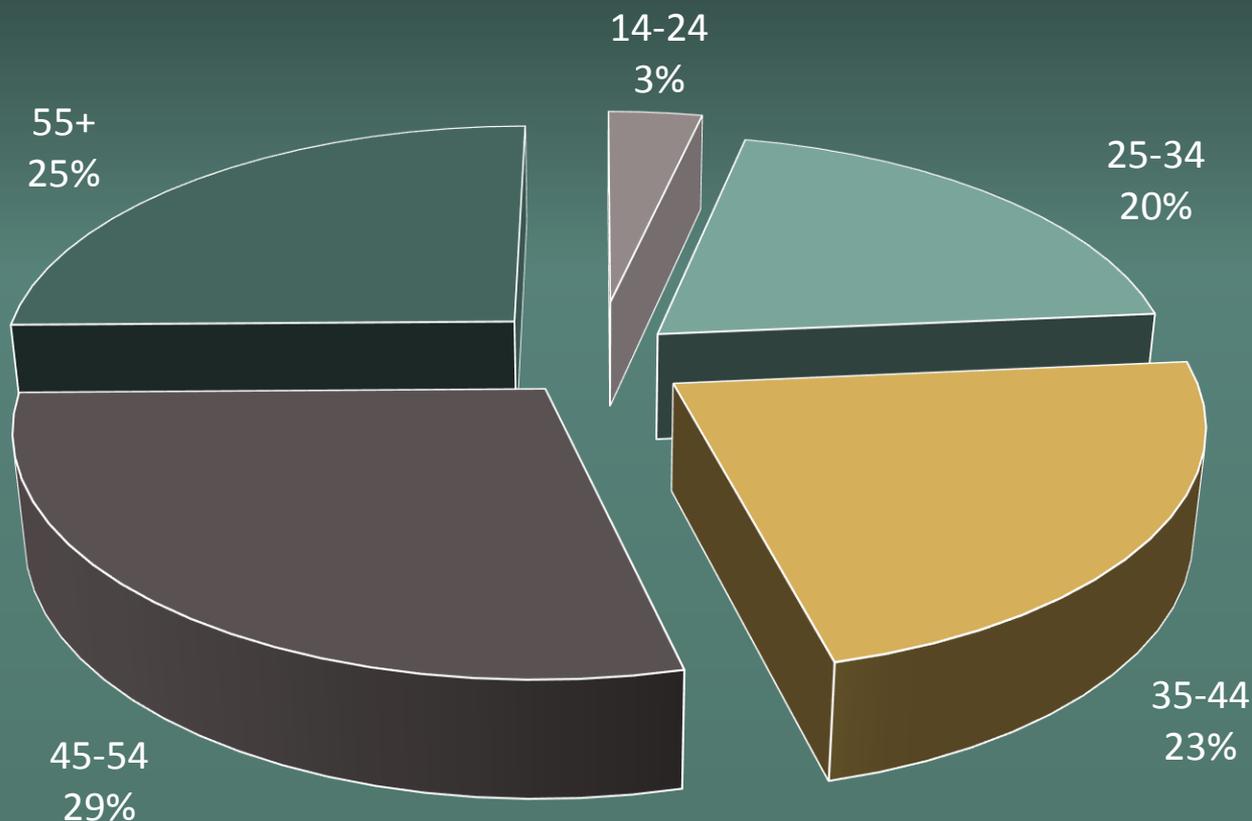


# 3345 Navigational, Measuring, Electromedical, and Control Instruments Manufacturing 2014 Average Annual Employment by Age Group





# 5417 Scientific Research and Development Services 2014 Average Annual Employment by Age Group





# Projections Information

## 2014 – 2024 Industry Projections by NAICS Code

NAICS	Industry	2014	2024	Net Change	Percent Change	Average Annual Growth	U.S. Average Annual Growth	Location Quotient
3339	Other General Purpose Machinery Manufacturing	3,250	3,540	290	8.92	0.86	-0.03	0.88
3344	Semiconductor and Other Electronic Component Manufacturing	1,750	1,670	-80	-4.57	-0.47	-1.00	0.34
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	2,220	2,500	280	12.61	1.19	-0.95	0.41
5417	Scientific Research and Development Services	5,440	6,110	670	12.32	1.17	0.59	0.62



# Major Enabling Technology Regions

## Enabling Technology Industry Maps:

### Statewide

- Workforce Development Region 1
- Workforce Development Region 2
- Workforce Development Region 3
- Workforce Development Region 4
- Workforce Development Region 5
- Workforce Development Region 6
- Workforce Development Region 7
- Workforce Development Region 8
- Workforce Development Region 9
- Workforce Development Region 10