



Alabama  
Department of Labor

Labor Market Information  
James Henry, Division Director

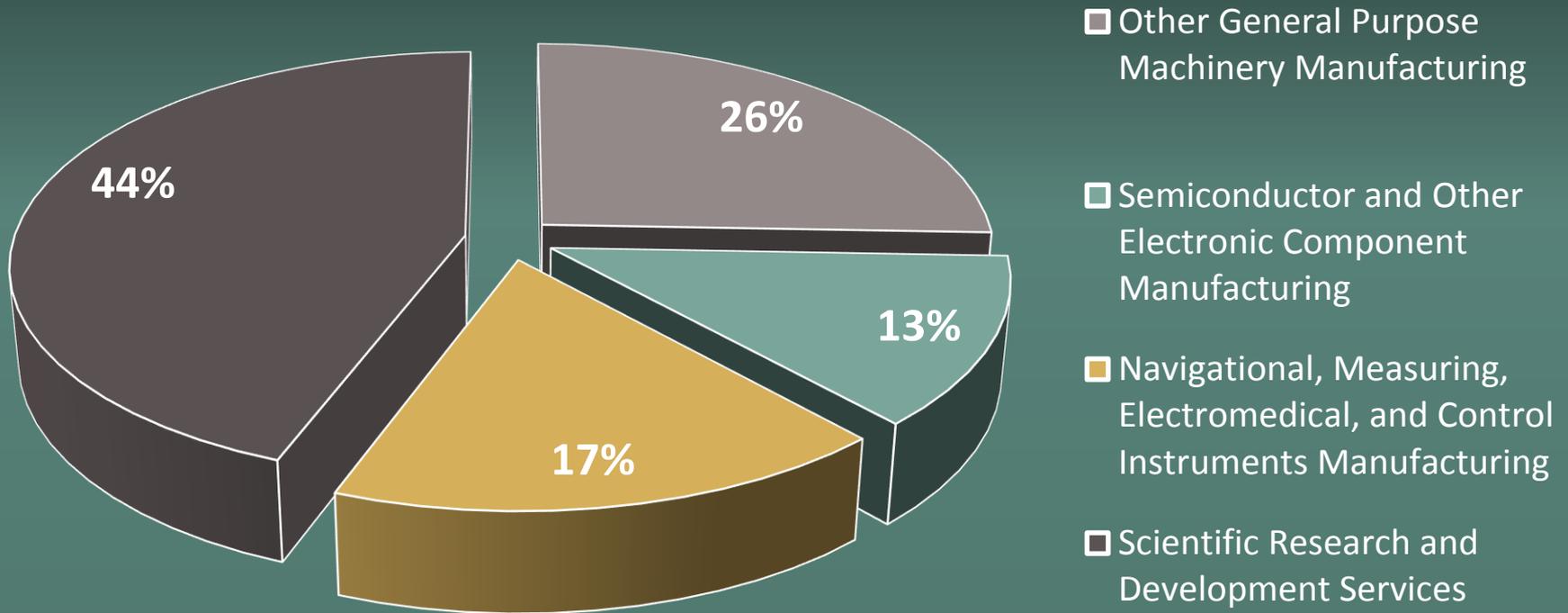


# Accelerate Alabama Robotics Nanotechnology

Alabama Department of Labor  
Labor Market Information Division



# Alabama Robotics Employment by Industry Sectors





## Alabama Robotics Industry Overview

Sector	# of Companies	# Employed
Other General Purpose Machinery Manufacturing	94	3,230
Semiconductor and Other Electronic Component Manufacturing	40	1,607
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	56	2,195
Scientific Research and Development Services	273	5,595



# 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.

94 companies; 3,230 employed;  
26% of Robotics Industry Employment

# of Employees	% of Companies
1-49	82%
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% First-Line Supervisors of Production and Operating Workers

**Source:** Quarterly Census of Employment and Wages, 2013 annual average. *Note: Numbers may not equal 100% due to rounding.*

**Source:** 2014 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	*	\$2,489	*	*
2 – 3 Years	127	\$4,180	\$3,178	8.4%
4 – 5 Years	*	\$3,301	\$2,744	8.5%
6 – 10 Years	102	\$3,354	\$2,803	9.6%
11+ Years	2,754	\$4,418	\$3,467	4.3%
All Firm Ages	3,039	\$4,350	\$3,381	4.7%



# 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.

40 companies; 1,607 employed;  
13% of Robotics Industry Employment

# of Employees	% of Companies
1-49	78%
50-99	10%
100-249	10%
250+	2%

### 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
- 4% First-Line Supervisors of Production and Operating Workers

**Source:** Quarterly Census of Employment and Wages, 2013 annual average. *Note: Numbers may not equal 100% due to rounding.*

**Source:** 2014 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	*	\$3,046	\$2,691	*
2 – 3 Years	*	*	*	*
4 – 5 Years	*	\$4,127	\$3,833	*
6 – 10 Years	*	\$3,224	\$1,573	*
11+ Years	1,505	\$4,161	\$3,585	5.5%
All Firm Ages	1,538	\$4,143	\$3,460	5.7%



# 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.

56 companies; 2,195 employed;  
17% of Robotics Industry Employment

# of Employees	% of Companies
1-49	82%
50-99	5%
100-249	9%
250+	4%

**Source:** Quarterly Census of Employment and Wages, 2013 annual average. *Note: Numbers may not equal 100% due to rounding.*

### 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:** 2014 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	59	\$6,590	*	13.3%
2 – 3 Years	50	\$6,167	\$4,564	11.8%
4 – 5 Years	19	\$3,624	*	*
6 – 10 Years	15	\$4,833	*	*
11+ Years	2,084	\$5,583	\$3,616	3.7%
All Firm Ages	2,215	\$5,603	\$4,063	4.1%



# 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.

273 companies; 5,595 employed;  
44% 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, 2013 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:** 2014 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.

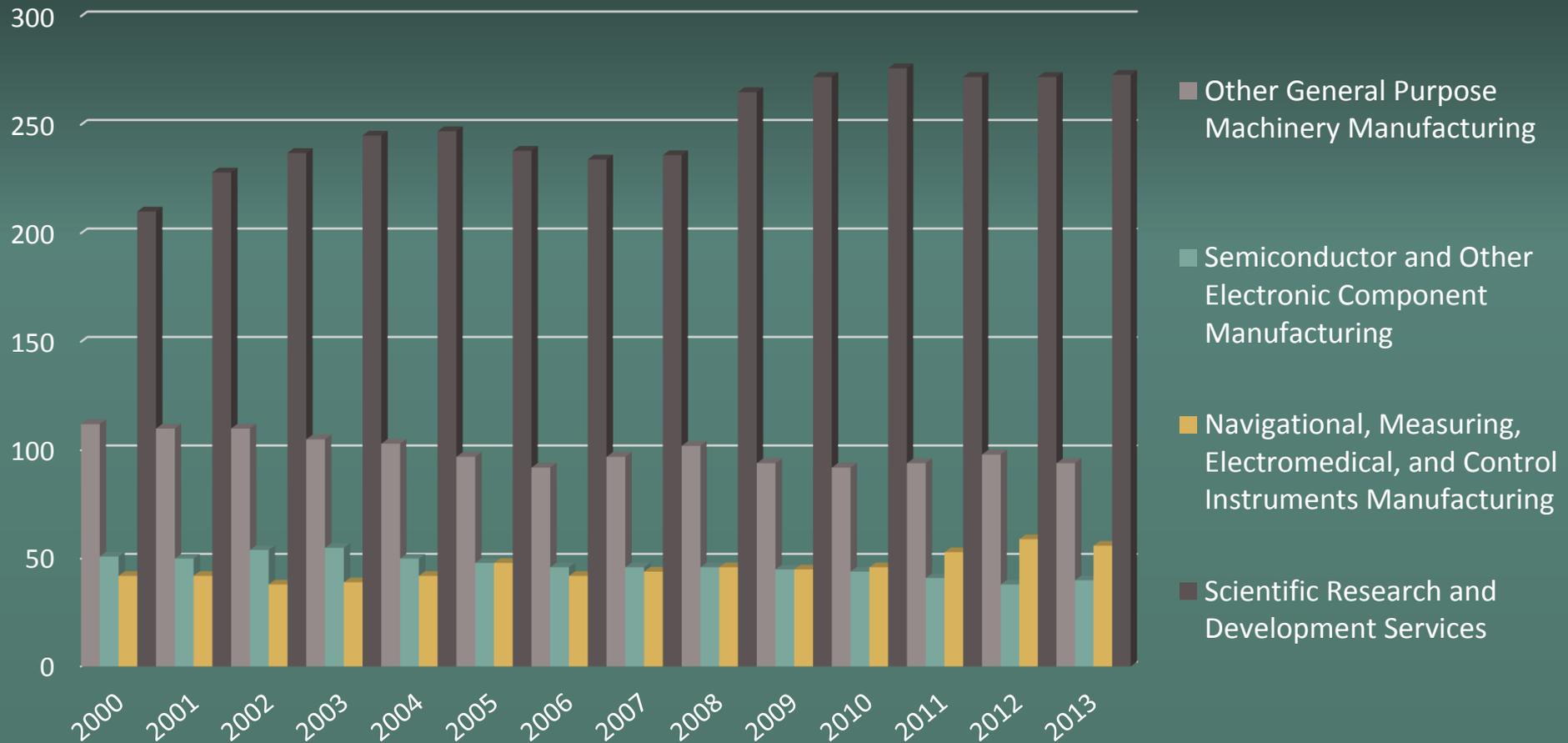


# Scientific Research and Development Services Firm Age Workforce Indicators

Firm Age	Employment	Monthly Earnings	Monthly Earnings New Hires	Turnover
0 – 1 Year	47	\$4,978	\$4,254	*
2 – 3 Years	44	\$4,445	\$2,490	8.5%
4 – 5 Years	57	\$4,864	\$3,502	10.2%
6 – 10 Years	346	\$4,741	\$2,953	7.4%
11+ Years	4,574	\$7,446	\$5,993	4.2%
All Firm Ages	5,067	\$7,180	\$5,446	4.7%



# 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	1,000	8%
Computer Systems Analysts	680	5%
Machinists	500	4%
Software Developers, Systems Software	450	4%
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	410	3%
Welders, Cutters, Solderers, and Brazers	410	3%
Electrical Engineers	380	3%
Industrial Engineers	330	3%
Team Assemblers	310	2%
Remaining Occupations	8,330	65%



# Wage Information

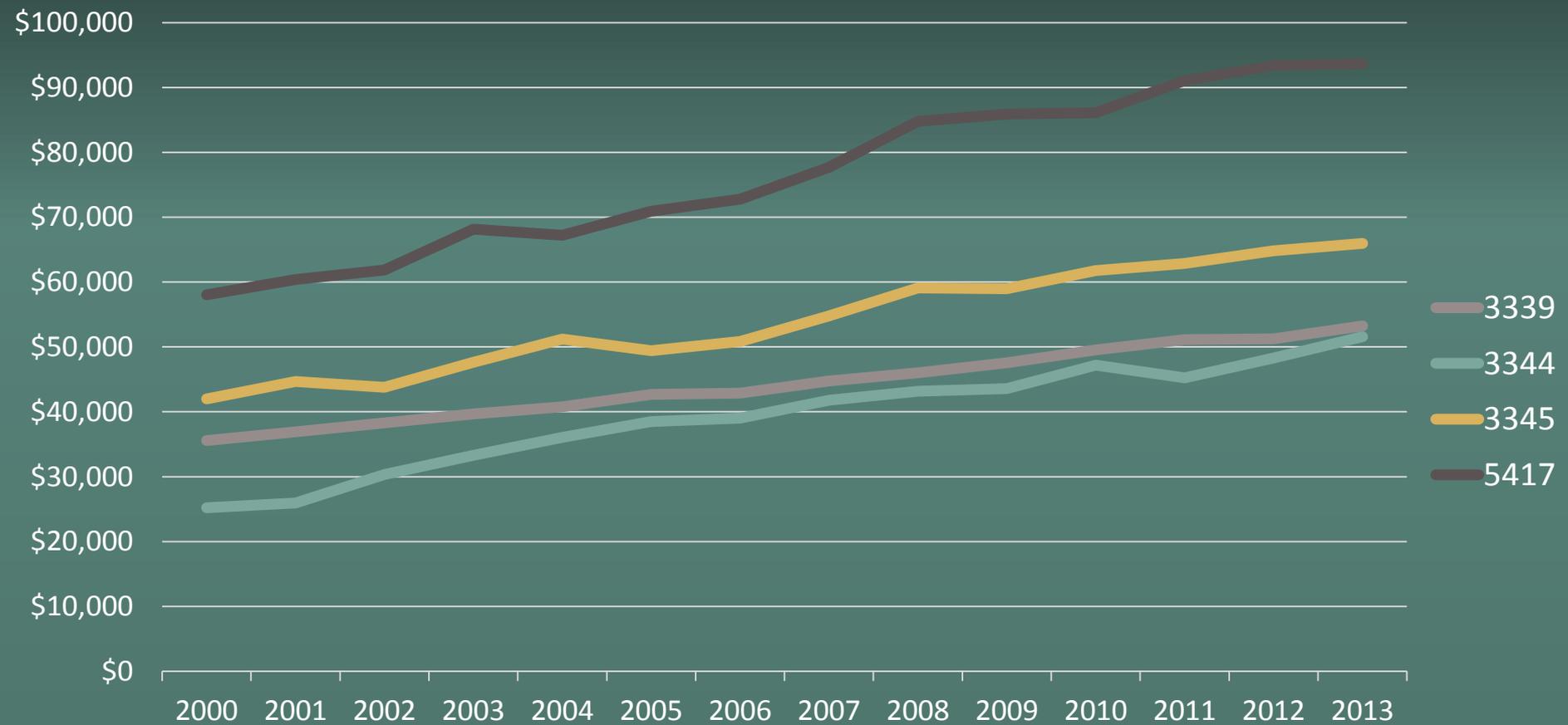
## Top 10 by Rounded Occupational Employment

Occupation	Rounded Emp.	Mean Hourly	Mean Annual	Entry Hourly	Entry Annual	Experience Hourly	Experience Annual
Electrical and Electronic Equipment Assemblers	1,000	\$13.59	\$28,258	\$8.87	\$18,441	\$15.94	\$33,162
Computer Systems Analysts	680	\$38.67	\$80,420	\$26.89	\$55,931	\$44.55	\$92,670
Machinists	500	\$19.21	\$39,966	\$12.48	\$25,953	\$22.59	\$46,973
Software Developers, Systems Software	450	\$47.72	\$99,239	\$31.88	\$66,294	\$55.63	\$115,717
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	410	\$15.57	\$32,383	\$10.59	\$22,020	\$18.06	\$37,570
Welders, Cutters, Solderers, and Brazers	410	\$17.87	\$37,145	\$12.50	\$25,994	\$20.54	\$42,726
Electrical Engineers	380	\$45.20	\$94,022	\$31.10	\$64,689	\$52.26	\$108,684
Industrial Engineers	330	\$40.72	\$84,699	\$28.86	\$60,028	\$46.65	\$97,039
Team Assemblers	310	\$16.85	\$35,063	\$10.09	\$20,989	\$20.24	\$42,100
First-Line Supervisors of Production and Operating Workers	270	\$27.07	\$56,294	\$16.86	\$35,083	\$32.17	\$66,910



# Wage Information

## Total Wages by NAICS Code 2000-2013





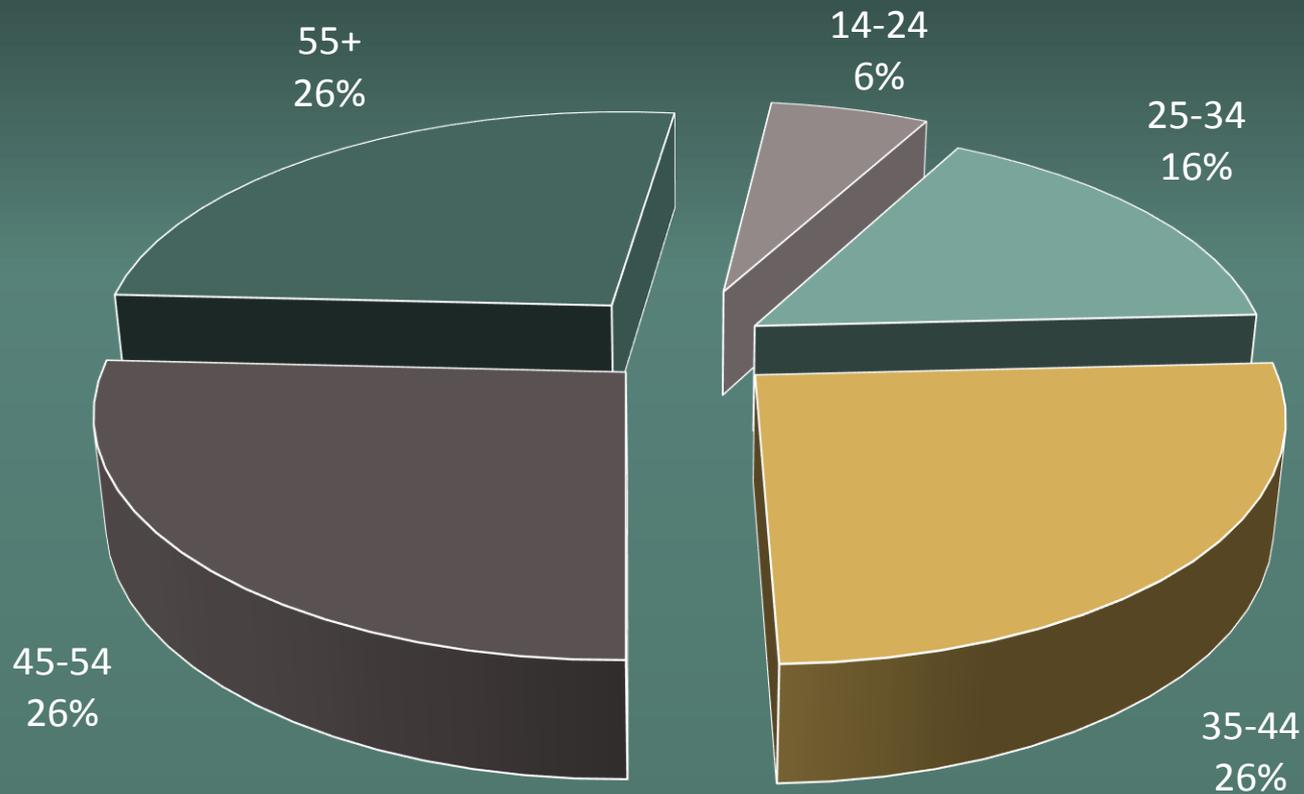
## 2013 Quarterly Workforce Indicators

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	4.8%	60	-13	\$4,345	\$3,348
3344	Semiconductor and Other Electronic Component Manufacturing	5.7%	51	9	\$4,143	\$3,460
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	4.1%	61	10	\$5,603	\$4,055
5417	Scientific Research and Development Services	4.7%	104	-16	\$7,181	\$5,507



# 3339 Other General Purpose Machinery Manufacturing

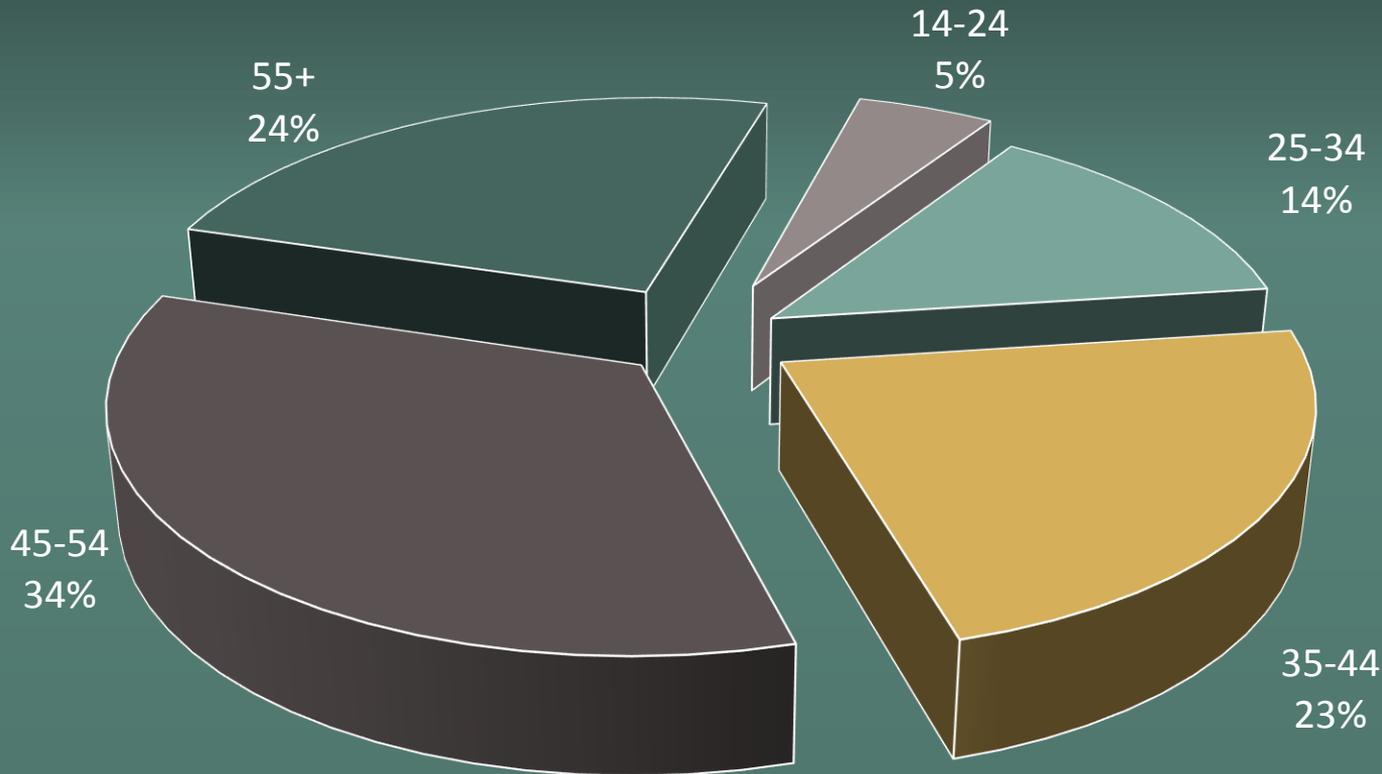
## 2013 Average Annual Employment by Age Group





# 3344 Semiconductor and Other Electronic Component Manufacturing

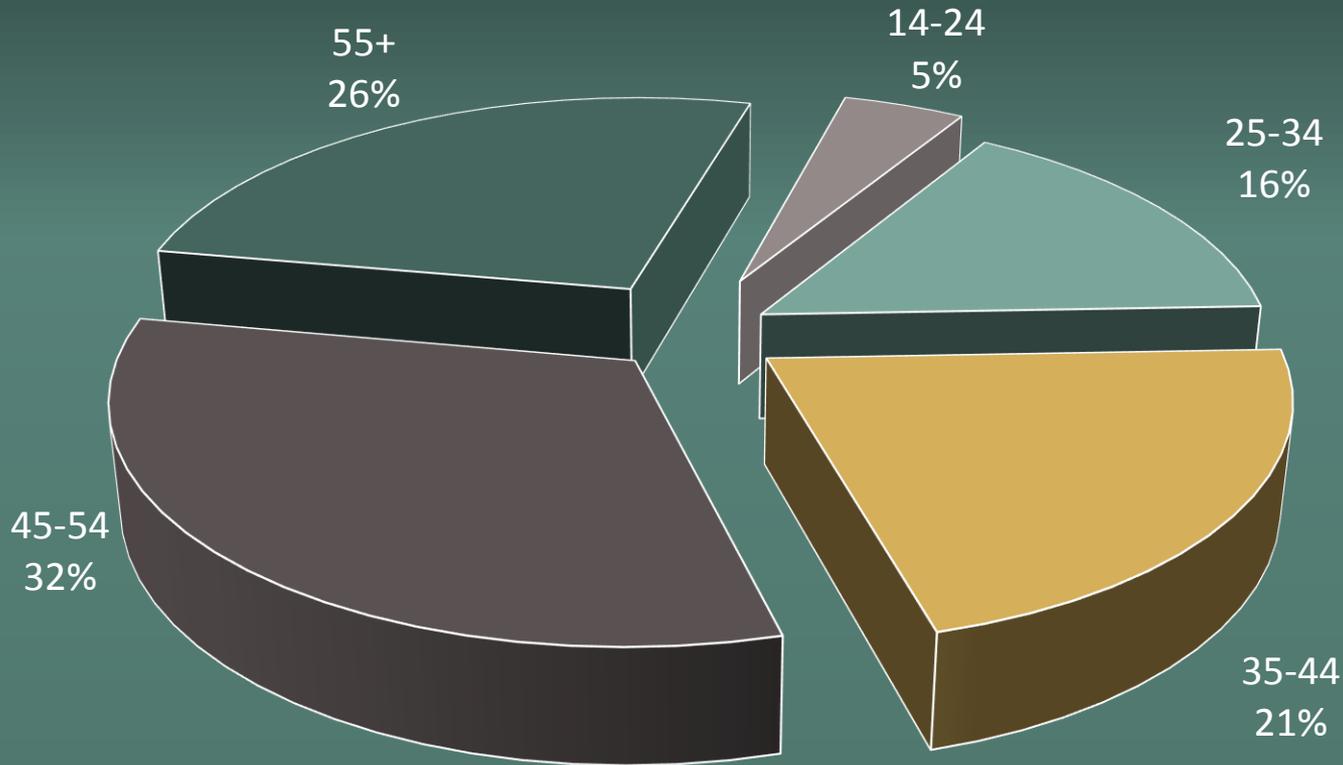
## 2013 Average Annual Employment by Age Group





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

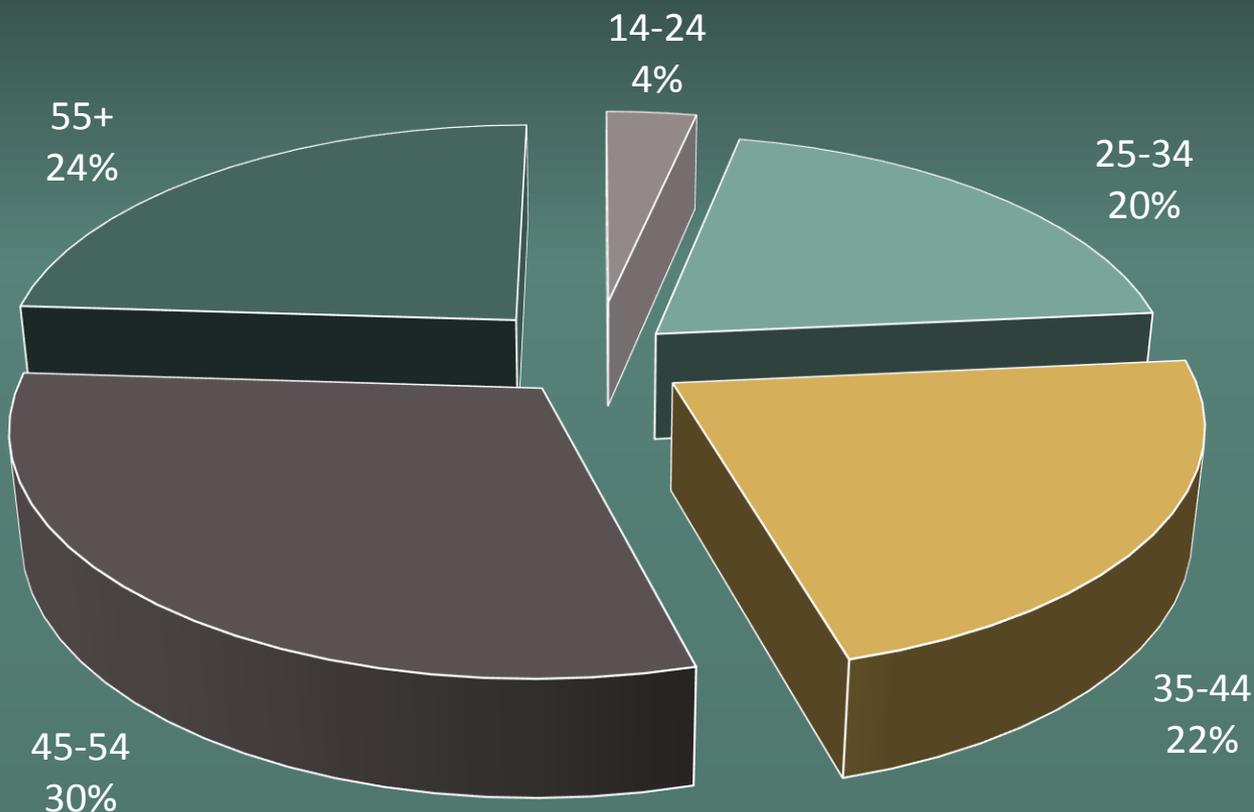
## 2013 Average Annual Employment by Age Group





# 5417 Scientific Research and Development Services

## 2013 Average Annual Employment by Age Group





# Projections Information

## 2012 – 2022 Industry Projections by NAICS Code

NAICS	Industry	2012	2022	Net Change	Percent Change	Average Annual Growth	U.S. Average Annual Growth	Location Quotient
3339	Other General Purpose Machinery Manufacturing	3,340	3,330	-10	-0.30	-0.03	-0.63	0.93
3344	Semiconductor and Other Electronic Component Manufacturing	1,680	1,600	-80	-4.76	-0.49	-0.84	0.31
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	2,200	2,520	320	14.55	1.37	-0.86	0.39
5417	Scientific Research and Development Services	5,560	6,600	1,040	18.71	1.73	1.27	0.62



# Major Robotics Nanotechnology Regions

## Robotics Nanotechnology 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