

# Oregon's High Technology Cluster

The strength of Oregon's High Technology sectors is driven by a large presence of the Semiconductor sector. 165 establishments in the Semiconductor sector represent a third of the employment in the industry cluster and pay much higher wages than other High Technology sectors in the state or the U.S. R&D spending in Oregon's Semiconductor sector is also much higher. Computer & Electronics sector is relatively weak and is expected to grow slowly. Software & IT sector in Oregon performed about as well as in the rest of the U.S. and is the fastest growing sector.

## Technology Cluster Performance Metrics

### Oregon's industry cluster performance relative to the United States

High Technology	Oregon		U.S.		Competitiveness Relative to U.S.
	2019	Annual Growth since 2007	2019	Annual Growth since 2007	
Employment	94,804	0.6%	6,013,803	1.1%	Lower
Establishments	9,965	0.5%	626,208	1.2%	Lower
Average Wage	\$118,429	3.3%	\$121,346	3.7%	Lower
R&D (in Millions, annual) <sup>1</sup>	\$6,081	10.4%	\$128,098	5.7%	Higher
Patents (estimated, annual) <sup>2</sup>	1,408	1.1%	82,358	8.4%	Lower
<b>Location Quotient</b>	<b>1.22</b>				
<b>Projected 10-Year Employment Growth</b>	<b>12.8%</b>				

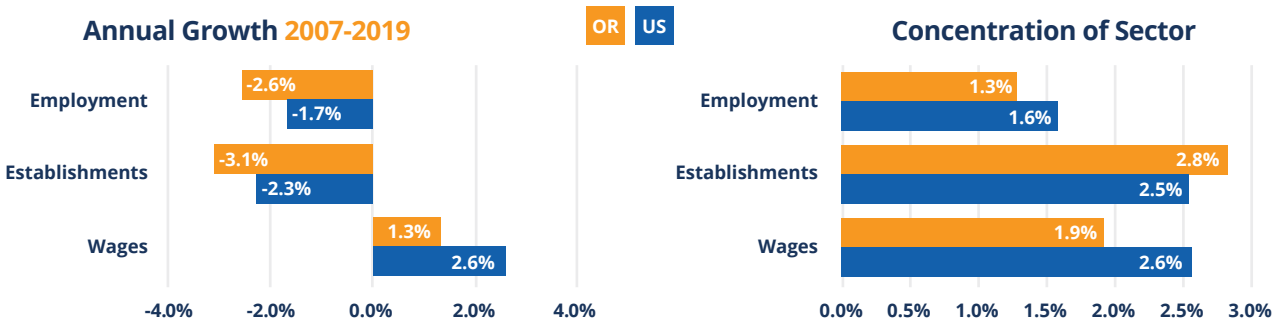
<sup>1</sup> Research and development paid for and performed by companies in 2017 and growth since 2011.

<sup>2</sup> Estimate of patents granted in 2017 based on 2007 to 2015 data and growth since 2007.

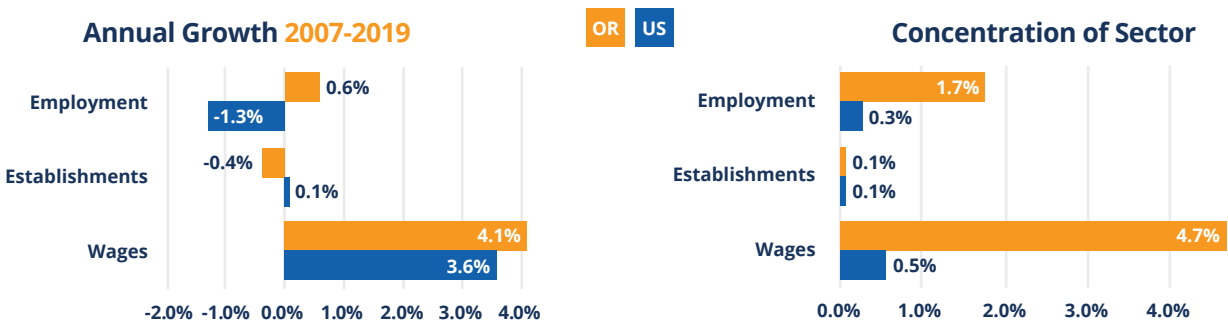
Note: A Location quotient (LQ) measures the concentration or specialization of an industry compared to a larger geography. For these handouts, we compare Oregon's economic clusters and subclusters to the United States. An LQ is calculated by taking the region's share of an economic indicator (jobs, wages, establishments, etc.) relative to the share of that indicator in the larger geography.

## Industry Subcluster Summary

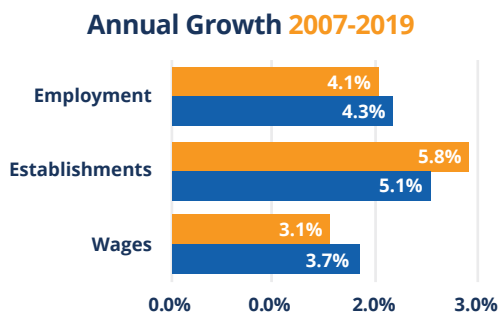
Computer & Electronics	Oregon		U.S.		Competitiveness Relative to U.S.
	2019	Annual Growth since 2007	2019	Annual Growth since 2007	
Employment	24,736	-2.6%	2,336,187	-1.7%	Lower
Establishments	4,437	-3.1%	256,363	-2.3%	Lower
Average Wage	\$81,697	1.3%	\$96,246	2.6%	Lower
Location Quotient	0.82				
Projected 10-Year Employment Growth	4.0%				



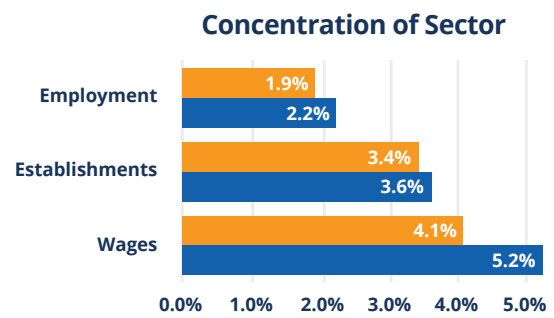
Semiconductors	Oregon		U.S.		Competitiveness Relative to U.S.
	2019	Annual Growth since 2007	2019	Annual Growth since 2007	
Employment	33,545	0.6%	396,540	-1.3%	Higher
Establishments	165	-0.4%	6,199	0.1%	Lower
Average Wage	\$146,675	4.1%	\$118,953	3.6%	Higher
Location Quotient	6.52				
Projected 10-Year Employment Growth	5.2%				



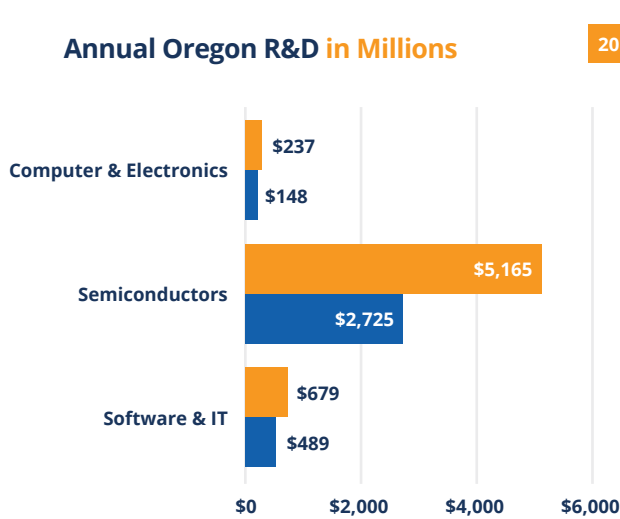
Software & IT	Oregon		U.S.		Competitiveness Relative to U.S.
	2019	Annual Growth since 2007	2019	Annual Growth since 2007	
Employment	36,523	4.1%	3,281,076	4.3%	Lower
Establishments	5,363	5.8%	363,646	5.1%	Higher
Average Wage	\$117,365	3.1%	\$139,507	3.7%	Lower
Location Quotient	0.86				
Projected 10-Year Employment Growth	27.8%				



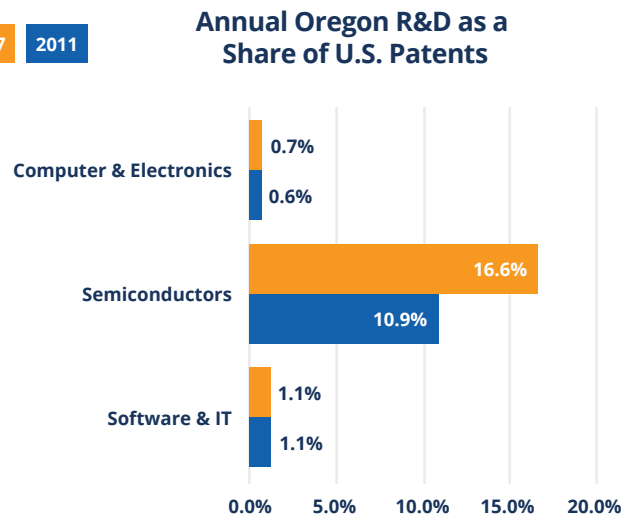
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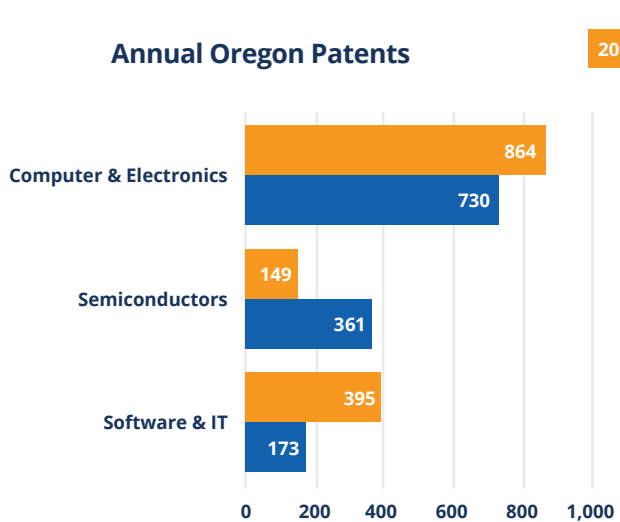
## Technology Research & Development in Oregon



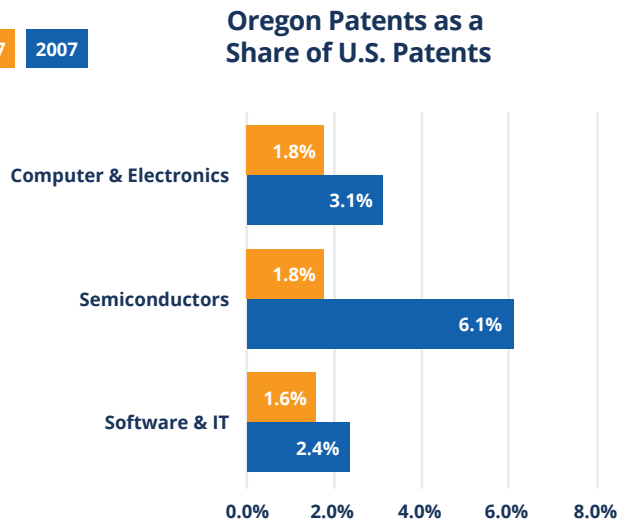
2017 2011



## Technology Patents in Oregon



2017 2007



### Note:

Specialization relative to the U.S. compares Oregon's current level of competitiveness.

### Sources:

U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), 2007 and 2019.

Oregon Employment Department, Oregon Industry Employment Forecast, 2017-2027.

National Science Foundation (NSF), Business Enterprise Research and Development Survey (BERD), 2011 and 2017.

U.S. Patent and Trademark Office, Patent Technology Monitoring Team (PTMT), Patenting by Geographic Region (State and Country), 2007 to 2015.