

## Pennsylvania

Advanced industries employ

**486,518**

full-time workers. (2015)

These direct jobs supports an additional

**389,210**

indirect jobs in other industries in the region.

Advanced industries produce

**\$85.6**

billion dollars in output in the region.  
(2015, 2009 Chained)

Advanced industries pay, on average

**\$85,745**

dollars per year (2015).

Advanced industries directly account for

**8.2%**

of all jobs in the region.

This employment share is

**#25**

among all states.

This accounts for

**13.9%**

of all output in the region (2015).

This compares to average pay of

**\$51,438**

for all industries (2015).

Advanced industry annual average growth, 2013-2015

**OUTPUT**

**JOB**

RANK:  
**#32**

**2.70%**

RANK:  
**#42**

**2.46%**

1.65%

0.75%

Pennsylvania

U.S.

Pennsylvania

U.S.

### What are Advanced Industries?

The Metropolitan Policy Program at Brookings defines advanced industries as those that: 1) Spend at least \$450 per worker per year on R&D and 2) employ at least 20 percent of their workforce in STEM-intensive occupations. The definition identifies 50 4-digit NAICS industries across the manufacturing, energy, and services sectors that together constitute the advanced industries super-sector.

### Why do Advanced Industries Matter?

Advanced industries encompass the nation's "tech" sector at its broadest and most consequential. They represent a sizable economic anchor for the U.S. economy and have led the post-recession employment recovery. Their competitiveness and growth are prerequisites for any future broadly shared prosperity. As such, the sector encompasses the country's best shot at supporting innovative, inclusive, and sustainable growth. Advanced industries are present in nearly every U.S. region, but the sector's geography is uneven.

### For More Information

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#### DATA NOTES

All figures reflect Brookings analysis of data from Moody's Analytics.

# Pennsylvania

## Twenty-Five Largest Advanced Industries (2015)

There are 8 advanced industries in Pennsylvania with LQs over 1.5. LQs over 1.5 indicate specialization †

Industry 4-Digit NAICS Code	Industry Title	Industry Employment (2015)	Industry Location Quotient (LQ) † 2015	Industry Share of Total Advanced Industries Employment (2015)	Industry Employment Annual Growth		Industry Share of Total Advanced Industries Output (2015)	Industry Output Annual Growth	
					2010-2013	2013-2015		2010-2013	2013-2015
5415	Computer Systems Design	68,330	0.89	14.0%	5.7%	4.9%	10.6%	7.5%	5.7%
5413	Engineering	57,040	1.00	11.7%	1.8%	0.5%	8.6%	1.1%	0.9%
5416	Management Consulting	47,990	0.93	9.9%	4.5%	1.1%	7.7%	2.2%	2.7%
5417	R&D Services	29,340	1.10	6.0%	-1.7%	1.1%	6.1%	-0.2%	2.3%
3254	Pharmaceuticals	17,780	1.57	3.7%	-5.6%	-0.5%	8.1%	-10.3%	0.1%
2211	Power Generation & Supply	17,260	1.08	3.5%	0.4%	-1.7%	8.9%	-3.7%	-2.4%
3359	Misc. Electrical Equipment	16,080	3.06	3.3%	2.0%	0.9%	2.1%	-1.5%	3.6%
3345	Precision Instruments	14,010	0.87	2.9%	1.9%	0.0%	2.6%	6.4%	1.7%
3391	Medical Equipment & Supplies	13,180	1.06	2.7%	-2.6%	-2.4%	2.2%	-6.2%	2.9%
3311	Iron & Steel Products	12,750	3.54	2.6%	2.2%	-2.8%	2.2%	9.7%	-6.5%
3399	Misc. Manufacturing	12,000	1.05	2.5%	2.0%	0.0%	1.5%	-1.3%	3.7%
3339	General Purpose Machinery	11,510	1.07	2.4%	3.7%	0.8%	1.4%	5.6%	0.2%
6215	Medical and Diagnostic Laboratories	11,060	1.05	2.3%	-2.6%	-0.3%	1.1%	-2.6%	0.4%
3344	Semiconductors	10,610	0.71	2.2%	-0.9%	-1.8%	2.1%	5.1%	2.5%
3364	Aircraft Products & Parts	10,250	0.52	2.1%	1.4%	-6.7%	2.5%	8.1%	-4.1%
3315	Foundries	9,410	1.87	1.9%	5.8%	-0.6%	1.1%	11.4%	-4.4%
3331	Agri., Constr., Mining Machinery	9,250	0.97	1.9%	4.3%	-2.8%	1.3%	5.9%	-2.2%
5182	Data Processing & Hosting	8,970	0.74	1.8%	0.3%	-1.1%	1.4%	-5.2%	2.9%
3363	Motor Vehicle Parts	8,710	0.38	1.8%	-2.7%	4.7%	1.2%	1.4%	5.3%
5191	Web Search Portals and Internet Publishing	8,500	0.86	1.7%	6.2%	5.6%	1.1%	10.3%	16.8%
3365	Railroad Rolling Stock Manufacturing	7,600	6.59	1.6%	9.1%	0.0%	1.2%	17.0%	-3.7%
3353	Electrical Equipment	7,190	1.24	1.5%	1.7%	-2.0%	1.0%	-0.9%	0.2%
2111	Oil & Gas Extraction	6,340	0.81	1.3%	16.6%	2.8%	5.3%	54.9%	4.9%
3241	Petroleum & Coal Products	6,090	1.37	1.3%	-2.2%	2.0%	2.1%	2.7%	11.2%
3251	Basic Chemicals	5,880	0.97	1.2%	1.7%	-0.1%	2.0%	-4.1%	-1.5%
IFG	Advanced industries manufacturing	221,990	0.98	45.6%	0.5%	-0.3%	43.2%	-0.5%	0.6%
	Advanced industries energy	23,640	0.93	4.9%	3.6%	-0.6%	14.2%	6.3%	0.1%
	Advanced industries services	240,890	0.89	49.5%	2.4%	1.9%	42.6%	1.9%	3.3%
	<b>ADVANCED INDUSTRIES TOTAL</b>	<b>486,520</b>	<b>0.93</b>	<b>100.0%</b>	<b>1.5%</b>	<b>0.7%</b>	<b>100.0%</b>	<b>1.3%</b>	<b>1.6%</b>

† Location quotients are a measure of specialization for an industry using employment. A LQ of over 1 indicates that an industry employs more workers, as a share of total employment, than the nation as a whole.