

## California

Advanced industries employ

**1,613,700**

full-time workers. (2013)

These direct jobs supports an additional

**1,290,960**

indirect jobs in other industries in  
the region.

Advanced industries produce

**\$389.7**

billion dollars in output in the region.  
(2013, 2005 Chained)

Advanced industries pay, on average

**\$116,750**

dollars per year (2013).

Advanced industries directly  
account for

**10.2%**

of all jobs in the region.

This employment share is

**#7**

among all states.

This accounts for

**19.0%**

of all output in the region (2013).

This compares to average pay of

**\$59,030**

for all industries (2013).

Advanced industry annual average growth, 2010-2013

**JOBS**

**OUTPUT**

2.7%

2.7%

3.4%

3.8%

California

U.S.

California

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.

# California

## Twenty-Five Largest Advanced Industries (2013)

There are 13 advanced industries in California with LQs over 1.5. LQs over 1.5 indicate specialization †

| Industry 4-Digit NAICS Code       | Industry Title                             | Industry Employment (2013) | Industry Location Quotient (LQ) † 2013 | Industry Share of Total Advanced Industries Employment (2013) | Industry Employment Annual Growth 2010-2013 | Industry Share of Total Advanced Industries Output (2013) | Industry Output Annual Growth 2010-2013 |
|-----------------------------------|--|----------------------------|--|---|---|---|---|
| 5415                              | Computer Systems Design                    | 242,040                    | 1.27                                   | 15.0%   | 6.6%  | 11.5%   | 7.2%                                    |
| 5416                              | Management Consulting                      | 201,870                    | 1.53                                   | 12.5%   | 8.0%  | 8.1%  | 6.4%                                    |
| 5413                              | Architecture & Engineering                 | 165,460                    | 1.10                                   | 10.3%   | 1.7%  | 6.4%  | 1.7%                                    |
| 5417                              | R&D Services                               | 128,430                    | 1.82                                   | 8.0%  | 2.8%  | 6.8%  | 4.9%                                    |
| 3344                              | Semiconductors                             | 86,210                     | 2.06                                   | 5.3%  | -0.5%                                       | 5.1%  | 4.5%                                    |
| 3345                              | Precision Instruments                      | 78,130                     | 1.78                                   | 4.8%  | -2.8%                                       | 4.6%  | 0.6%                                    |
| 3364                              | Aircraft Products & Parts                  | 71,940                     | 1.30                                   | 4.5%  | -0.5%                                       | 3.6%  | 3.9%                                    |
| 3341                              | Computer Equipment                         | 63,310                     | 3.59                                   | 3.9%  | 3.8%  | 6.0%  | 8.0%                                    |
| 5191                              | Web Search Portals and Internet Publishing | 60,130                     | 2.75                                   | 3.7%  | 15.3%                                       | 5.2%  | 18.2%                                   |
| 3391                              | Medical Equipment & Supplies               | 53,810                     | 1.58                                   | 3.3%  | 2.5%  | 2.9%  | 3.6%                                    |
| 5112                              | Software Products                          | 53,460                     | 1.61                                   | 3.3%  | 5.9%  | 6.8%  | 10.7%                                   |
| 3254                              | Pharmaceuticals                            | 45,350                     | 1.47                                   | 2.8%  | 1.5%  | 7.0%  | 3.6%                                    |
| 6215                              | Medical and Diagnostic Laboratories        | 32,170                     | 1.17                                   | 2.0%  | 1.6%  | 0.8%  | 1.8%                                    |
| 3399                              | Misc. Manufacturing                        | 31,180                     | 1.02                                   | 1.9%  | 1.1%  | 1.3%  | 2.3%                                    |
| 3342                              | Communications Equipment                   | 23,920                     | 2.15                                   | 1.5%  | -4.9%                                       | 1.5%  | 0.0%                                    |
| 5182                              | Data Processing & Hosting                  | 23,630                     | 0.79                                   | 1.5%  | 8.3%  | 1.4%  | 4.3%                                    |
| 2211                              | Power Generation & Supply                  | 20,540                     | 0.47                                   | 1.3%  | -2.5%                                       | 2.9%  | -1.5%                                   |
| 5172                              | Wireless Telecom Carriers                  | 19,490                     | 1.13                                   | 1.2%  | -5.5%                                       | 1.8%  | 0.9%                                    |
| 3339                              | General Purpose Machinery                  | 16,130                     | 0.57                                   | 1.0%  | 0.7%  | 0.6%  | 3.6%                                    |
| 3332                              | Industrial Machinery                       | 13,880                     | 1.17                                   | 0.9%  | 1.7%  | 0.6%  | 4.5%                                    |
| 5152                              | Cable and Other Subscription Programming   | 13,770                     | 1.72                                   | 0.9%  | -5.7%                                       | 1.8%  | 1.5%                                    |
| 3241                              | Petroleum & Coal Products                  | 13,740                     | 1.10                                   | 0.9%  | -4.0%                                       | 2.9%  | -18.3%                                  |
| 3363                              | Motor Vehicle Parts                        | 12,530                     | 0.22                                   | 0.8%  | 2.2%  | 0.4%  | 4.2%                                    |
| 3359                              | Misc. Electrical Equipment                 | 12,500                     | 0.89                                   | 0.8%  | 3.6%  | 0.4%  | 2.4%                                    |
| 3333                              | Commercial & Service Machinery             | 11,650                     | 1.20                                   | 0.7%  | 2.4%  | 0.4%  | 4.0%                                    |
| Advanced industries manufacturing |  | 630,610                    | 1.04                                   | 39.1%   | -0.1%                                       | 41.6%   | 1.1%                                    |
| Advanced industries energy        |  | 31,310                     | 0.44                                   | 1.9%  | -0.4%                                       | 6.6%  | -1.1%                                   |
| Advanced industries services      |  | 951,780                    | 1.38                                   | 59.0%   | 4.8%  | 51.8%   | 6.0%                                    |
| <b>ADVANCED INDUSTRIES TOTAL</b>  |  | <b>1,613,700</b>           | <b>1.18</b>                            | <b>100.0%</b>   | <b>2.7%</b>                                 | <b>100.0%</b>   | <b>3.4%</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.