According to the latest data released by the National Science Board in its 2020 Science and Engineering Indicators report, the United States leads in a number of science and engineering (S&E) measures. For example, the U.S. invests the most in research and development, attracts the most venture capital, awards the most doctoral degrees, and provides the most business, financial, and information services.

A state’s S&E performance helps fuel its and the nation’s economy. Four benchmarks of Illinois’ S&E performance are highlighted here: the cost of public higher education, the size of the STEM workforce, investment in research and development, and venture capital funding.

### Rising Cost of a Bachelor’s Degree

A bachelor’s degree is one of several entry points to higher paying jobs associated with science, engineering, and many technical occupations.

Nationally, 34% of the total U.S. workforce has a bachelor’s degree or higher. In contrast, 76% of workers in S&E occupations have a bachelor’s degree or higher.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Annual Cost (in 2018 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$10,000</td>
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<tr>
<td>2005</td>
<td>$15,000</td>
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<tr>
<td>2010</td>
<td>$20,000</td>
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<tr>
<td>2015</td>
<td>$25,000</td>
</tr>
<tr>
<td>2018</td>
<td>$30,000</td>
</tr>
</tbody>
</table>

**Illinois**

- 2000: $10,000
- 2005: $15,000
- 2010: $20,000
- 2015: $25,000
- 2018: $30,000

**U.S.**

- 2000: $10,000
- 2005: $15,000
- 2010: $20,000
- 2015: $25,000
- 2018: $30,000

**Source:** National Center for Education Statistics, Digest of Education Statistics

### STEM Workforce: People Working in STEM Occupations

Nationally, about 1 in 16 workers (6.2% or 9 million) have occupations as scientists or engineers (4.9%), or technical workers (1.3%). The STEM workforce is larger still when defined as either those who hold a bachelor’s degree or higher in S&E (24.5 million) or those who use S&E technical expertise in their jobs (23.8 million), regardless of level of degree.

**Jobs in S&E as a percent of all jobs in 2018**

- **Scientists/Engineers**
  - **Illinois:** 4.4%
  - **U.S.:** 4.9%

- **Workers in Technical Occupations**
  - **Illinois:** 1.3%
  - **U.S.:** 1.3%

**Source:** U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics Survey
Research and development (R&D) spending is a driver of innovation. Investing in science and technology today has ripple-effect benefits throughout the economy over the long term.

Annual state performance in R&D varies considerably, from $289 million (SD) to $135.1 billion (CA). Illinois is one of 9 states that performs between $15 to $30 billion per year in R&D. In this figure, Illinois’ percent change in R&D spending is compared to the two highest and the two lowest states within this group.

**Total 2016 Research and Development Performed**

**IL** $17.5B  
**U.S.** $515.3B

*Source: NSF, National Center for Science and Engineering Statistics, National Patterns of R&D Resources*

### Percent change in R&D spending: 2000 to 2016

(Adjusted for inflation to 2016 dollars)

Venture capital investment supports U.S. businesses that take on the risk of developing and commercializing cutting-edge, emerging technologies. States with high values are successful at attracting venture capital to fuel new kinds of business, and ultimately, expand economic growth.

**Total 2017 Venture Capital Investment**

**IL** $2.0B  
**U.S.** $80.6B

*Source: Pitchbook Venture Capital and Private Equity Database*

### Total annual venture capital investment: 2000 to 2017

(Adjusted for inflation to 2017 dollars)