According to the latest data released by the National Science Board in its *2018 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 advanced 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 North Dakota’s 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, 31% of the total U.S. workforce has a bachelor’s degree or higher. In contrast, 75% of workers in S&E occupations have a bachelor’s degree or higher.

Average annual in-state cost of a public 4-year institution

(Adjusted for inflation to 2016 dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$5,000</td>
</tr>
<tr>
<td>2005</td>
<td>$10,000</td>
</tr>
<tr>
<td>2010</td>
<td>$15,000</td>
</tr>
<tr>
<td>2016</td>
<td>$20,000</td>
</tr>
</tbody>
</table>

**North Dakota**

- 2000: $5,000
- 2005: $10,000
- 2010: $15,000
- 2016: $20,000

**U.S.**

- 2000: $5,000
- 2005: $10,000
- 2010: $15,000
- 2016: $20,000

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 8.7 million) have occupations as scientists or engineers (4.8%), or technical workers (1.4%). The STEM workforce is larger still when defined as either those who hold a bachelor’s degree or higher in S&E (23.2 million) or those who use technical expertise in S&E in their jobs (19.4 million).

Jobs in S&E as a percent of all jobs in 2016

<table>
<thead>
<tr>
<th></th>
<th>Scientists/Engineers</th>
<th>Workers in Technical Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Dakota</td>
<td>3.3%</td>
<td>1.3%</td>
</tr>
<tr>
<td>U.S.</td>
<td>4.8%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

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 $253 million (WY) to $125 billion (CA). North Dakota is one of 12 states that performs less than $1 billion per year in R&D. In this figure, North Dakota’s percent change in R&D spending is compared to the two highest and the two lowest states within this group.

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.

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

Source: Pitchbook Venture Capital and Private Equity Database

National Science Foundation
nsf.gov/statistics/indicators