North Carolina

According to the latest data released by the National Science Board in its 2022 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 is the largest producer of output from knowledge- and technology-intensive service industries.

A state’s S&E performance helps fuel its and the nation’s economy. Four benchmarks of North Carolina’s S&E performance are highlighted here: the cost of public higher education, the size of the science, technology, engineering, and math (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, 36% of the total U.S. workforce has a bachelor’s degree or higher. In contrast, 45% of workers in the STEM workforce have a bachelor’s degree or higher.

Using an updated definition that includes workers of all educational backgrounds and the wide variety of occupations that require significant STEM knowledge and expertise, in 2019 there were approximately 36 million STEM workers nationally, representing 23% of the total U.S. workforce. Within this expanded STEM workforce, 55% of STEM workers do not have a bachelor’s degree (the skilled technical workforce - STW).

STEM Workforce: People Working in STEM Occupations

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

Source: National Science Foundation, S&E Indicators | ncses.nsf.gov/indicators

Source: U.S. Census Bureau, American Community Survey (ACS), 2019, Public Use Microdata Sample (PUMS), Data as of 25 October 2020.

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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 $157 million (WY) to $164.4 billion (CA). North Carolina is one of ten states that performs between $15-$36 billion per year in R&D. In this figure, North Carolina’s percent change in R&D spending is compared to the 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.

Venture Capital Investment

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

Total 2018 Research and Development Performed

<table>
<thead>
<tr>
<th>State</th>
<th>R&amp;D Spending</th>
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<tr>
<td>NC</td>
<td>$15.4B</td>
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<tr>
<td>U.S.</td>
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Source: National Science Foundation

Percent change in R&D spending: 2000 to 2018
(Adjusted for inflation to 2018 dollars)

Source: PitchBook Venture Capital and Private Equity Database

Total 2019 Venture Capital Investment

<table>
<thead>
<tr>
<th>State</th>
<th>VC Investment</th>
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<tr>
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<td>$132.7B</td>
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</table>

Source: National Science Board

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