

National Science Board Science and Engineering Indicators



UTAH

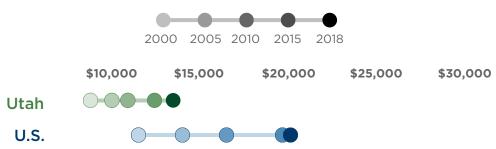
According to the latest data released by the National Science Board in its <u>2020 Science and</u> <u>Engineering Indicators</u> report, the United States leads in a number of science and engineering (S&E) measures. For example, the U.S. invests the most in research and development, attracts the most 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 Utah'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, 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. Average annual in-state cost of a public 4-year institution (Adjusted for inflation to 2018 dollars)



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

STEM Workforce: People Working in STEM Occupations

Nationally, about 1 in Jobs in S&E as a percent of all jobs in 2018 16 workers (6.2% or 9 million) have occupations as scientists or engineers Scientists/Engineers Workers in Technical Occupations (4.9%), or technical workers (1.3%). The STEM workforce is larger still when defined as either those who hold 5.2% Utah* a bachelor's degree or higher in S&E (24.5 million) or those who use U.S. 4.9% 1.3% S&E technical expertise in their jobs (23.8 million), regardless of level of degree. 0% 2% 4% 6% 8%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics Survey *2017 data; 2018 data is not available for Utah.

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Real Change in Research & Development Performed

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.

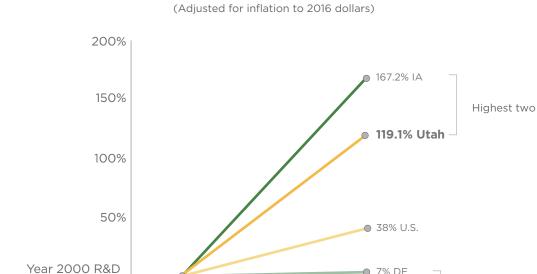
Annual state performance in R&D varies considerably, from \$289 million (SD) to \$135.1 billion (CA). Utah is one of 14 states that performs between \$1 to \$5 billion per year in R&D. In this figure, Utah's percent change in R&D spending is compared to the highest and the two lowest states within this group.

> Total 2016 Research and **Development Performed**

U.S. \$515.3B

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\$4.2B



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

2000

Spending Level

-50%

Venture Capital Investment



Total annual venture capital investment: 2000 to 2017

Venture capital investment supports U.S. businesses that take on the risk of developing and commercializing cuttingedge, 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 \$1.1B UT **U.S.** \$80.6B

Source: Pitchbook Venture Capital and Private Equity Database

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Percent change in R&D spending: 2000 to 2016

7% DE

-21.6% RI

2016

Lowest two