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).

A state’s S&E performance helps fuel its and the nation’s economy. Four benchmarks of Michigan’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.

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

STEM Workforce: People Working in STEM Occupations

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

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 $253 million (WY) to $126 billion (CA). Michigan is one of 8 states that performs between $15-$30 billion per year in R&D. In this figure, Michigan’s percent change in R&D spending is compared to the two highest states and the second lowest state within this group.

Venture Capital Investment

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