software.org
BSA Foundation

Software: Growing US Jobs and the GDP

UNITED STATES[1]

EMPLOYMENT

Software creates jobs for a wide variety of professionals in today's workplaces — everything from software developers and web designers to project coordinators, administrative assistants, and accountants. The number of jobs created directly by the software industry has increased 7.3 percent since 2016. This report, from Software.org: the BSA Foundation and conducted in 2019 by The Economist Intelligence Unit (EIU), captures the growth of the software industry in the United States and the sweeping economic impact it is making at state and national levels.

Total

14.4 million jobs

(includes indirect and induced impacts)

Direct

3.1 million jobs

GDP

Software is so much more than your desktop at work. Software is apps. Software is data. Software is cloud computing. It creates breakthroughs and drives growth in nearly every industry. Software empowers countless people and American businesses and improves our lives each day in ways big and small. Along with all this progress comes the dramatic, positive impact software has on our national economy each year.

Total Value-Added GDP

$1.6 trillion

(includes indirect and induced impacts)[2]

Direct Value-Added GDP

$845 billion

WAGES

Average Annual Wage for Software Developers

$114,000[3]

A software developer's wage is more than twice the average annual wage for all US occupations, which was $51,960 in 2018.[4]

RESEARCH & DEVELOPMENT

R&D Investment by Software Companies

$82.7 billion[5]

22.1% of All Domestic Business R&D in United States[6]

[1] All data is from 2018 unless otherwise indicated.
[2] For definitions of "indirect" and "induced," see www.software.org/softwarejobs.
[3] US Department of Labor, Bureau of National Statistics, Occupational Employment Statistics.
[4] Ibid.
[5] National Science Foundation/National Center for Science and Engineering Statistics and US Census Bureau, Business R&D and Innovation Survey. 2016 Industry breakdown.
[6] Ibid.

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NORTH DAKOTA

EMPLOYMENT

Total

6,403 jobs

(includes indirect and induced impacts)

Direct

5,137 jobs

Software creates jobs for a wide variety of professionals in today's workplaces — everything from software developers and web designers to project coordinators, administrative assistants, and accountants. In North Dakota, the number of jobs created by the software industry has increased 19.3 percent since 2016.

ECONOMIC IMPACT

Total Value-Added GDP

$882 million

Direct Value-Added GDP

$876 million

RESEARCH & DEVELOPMENT

R&D Investment by Software Companies

$81 million[7]

34.2% of All Domestic Business R&D in North Dakota[8]

North Dakota's economy and workforce benefit from software's broad investment in new technology. From developing new data analytics to driving breakthrough technologies like cognitive computing, the software industry's commitment to R&D continues to spur innovation at unprecedented rates.

METHODOLOGY

In 2018 the US Bureau of Economic Analysis, made revisions to their methodology to calculate GDP across industries, through their 2018 Comprehensive Update[9]. The revisions, which are consistent with international standards, include a new way of recognizing economic value from own-account software. The revisions have resulted in increases in GDP across industries including the software industry. The EIU has incorporated the revised methodology into its analysis, including revisions to previous 2016 estimates to ensure comparability over time.

To estimate the total contributions of the software industry to the US economy, The EIU analyzed the direct contributions and estimated indirect and induced impacts using various economic multipliers:

(1) *Direct contributions:* the levels of output or employment of the industry in question;

(2) *Indirect impacts:* the inter-industry economic activity resulting from the direct contributions (e.g., purchases of inputs);

(3) *Induced impacts:* the additional economic activity supported by spending on goods and services by households whose income was affected by the direct contributions and indirect impacts.

Data sources include The EIU, IMPLAN, National Science Foundation, US Bureau of Economic Analysis, US Bureau of Labor Statistics, US Census Bureau.

[7] National Science Foundation/ National Center for Science and Engineering Statistics and US Census Bureau, Business R&D and Innovation Survey. 2016 Industry breakdown. Where data is not available for 2016, the most recent year is used.

[8] National Science Foundation/ National Center for Science and Engineering Statistics.

[9] *Preview of the 2018 Comprehensive Update of the National Income and Product Accounts*, Survey of Current Business, April 2018, *available at* http://bit.ly/2kgmPUu.

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