VERMONT’S TECH EMPLOYMENT
The Hidden Driver of Our Economic Growth
A report by the Vermont Technology Alliance
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ABOUT THIS REPORT AND OUR MOTIVATIONS

We’ve observed first hand the increasing role that the technology sector continues to play in creating clean, green, well paying jobs across the state. We’ve also observed that our tech firms have continuing – and growing – challenges in hiring and retaining enough qualified prospects to meet their needs for growth. This has led to some of our fastest growing tech companies to expand outside of the state. That’s a shame, as we believe it needn’t be so. To fill and hold onto more of these jobs, we want to highlight tech’s largely unheralded contributions to the current economy, and to outline public policy priorities that will help us all embrace the opportunities that an expanding tech economy represents.

We’d like to thank the Vermont Department of Labor who, with our encouragement and support, conducted a study throughout 2015 to quantify Vermont’s tech workforce and its role in the state’s economy. The results of that study, recently released, can be found here:

“Tech in Vermont: A Study of the Prevalence and Impact of Tech in the Green Mountain State”.

This report features key findings from the Department of Labor’s “Tech in Vermont” Study, which highlights the pervasive impacts that tech employment has on the broader Vermont economy.
ABOUT THE VERMONT TECHNOLOGY ALLIANCE

WHO WE ARE:
We're a non-profit business association with a mission to support, promote, and grow technology businesses and technology jobs in Vermont. Our members range from individual entrepreneurs and start-ups to some of the state's largest companies.

WHAT WE DO:
We're the only organization focused solely on Vermont's technology sector. We advocate on behalf of the industry, collaborate with government, business, non-profit and education leaders; we create opportunities for networking (such as our Lunch & Learn sessions & CEO dinners); organize technology programs and events (such as Tech Jam and our Annual Cruise); and celebrate Vermont's tech community (via our publication Tapping Tech, our website, our monthly newsletter and social media).

LEARN MORE:
Visit our website at vtta.org, sign up to receive our newsletter, follow us on Twitter and connect with us on LinkedIn and Facebook.
Which industry employs the most Vermonters?
Tourism? Agriculture? The Answer May Surprise You

TECH JOBS ARE POWERING VERMONT’S ECONOMY

More Vermonters have jobs in tech occupations and in tech industries than in any other business sector.

Vermont may be a rural state, but it has tech at its heart. While tech may not be the first to come to mind when people think about the Green Mountain state, tech businesses and jobs are at its core.

In terms of salary, education, opportunity and financial impact, tech is a powerful driver of the state’s economy today, and a growth opportunity for Vermont’s future.
While Vermonters may know about some of the major tech activities in the state, from semiconductor manufacturing to software development, the reality is that tech is widely infused throughout Vermont’s broader economy. Nearly every job and industry in Vermont requires some use of tech skills and tools, whether running a farm, a ski resort or a store.

So given that tech is everywhere, what do we mean by a tech job or the tech industry?

In keeping with other similar studies conducted by other states and cities, tech jobs and tech industries were defined as those that fall under the acronym known as STEM, for science, technology, engineering, and mathematics. These jobs typically require specialized education in these fields, ranging from a professional certificate to two- and four-year college degrees, up to doctorate level training. The researchers divided Vermont’s tech jobs into two major categories “STEM Core,” such as computer programming, and “STEM Health” for healthcare related jobs, including biotechnology.

See the Department of Labor’s study for a further discussion of the study’s methodology.
Vermont’s tech business sector generates a total of 77,249 jobs representing a quarter of Vermont’s total employment of 304,554 and 30% of Vermont’s private employment of 251,528, based on 2014 data. In comparison, Vermont’s dairy industry employs about 7,000, while there are about 12,000 farm operators and tourism employs about 35,000.

About 40% of the jobs in the tech industry are in occupations defined by STEM Core (such as engineering and IT) according to the Tech in Vermont study. Approximately 8% of tech occupations in Vermont are self-employed, with the fastest growth occurring in STEM core jobs. The tech occupation with the most self-employed workers is web development, which has grown 23.8% since 2012.

In those places that are well served by internet and cell phone coverage, Vermont is well positioned to be an appealing place for tech startups, freelance software developers and, more broadly, skilled distance workers. If you can work from anywhere, why not Vermont?
THE ANNUAL WAGES VERMONT TECH JOBS GENERATE representing about 40% of all Vermont wages

Given that Vermont has 77,249 tech jobs with an average annual wage of $72,732, this generates an estimated $5.6 Billion in annual wages throughout the Vermont economy. This represents a substantial share of Vermont’s approximately $14 Billion in total wages.

Even when looking at only the 25,789 STEM Core jobs within the tech industry with an average wage of $72,482, the estimated wage contribution is still substantial at roughly $1.9 Billion.

Tech is pervasive; it is embedded in every other aspect of the economy. No other sector makes such a large contribution.
Total Tech employment in Vermont increased 8.3% from 2005 to 2014. In comparison, Vermont’s average employment grew only 1.2% for the same period.

This represents an increase in 7,879 STEM-based jobs, with STEM Core jobs growing at an even faster rate of 8.7%.

In terms of average annual increases in employment, tech jobs increased 0.9% each year compared with 0.1% for all Vermont employment.

Tech jobs are the fastest growing jobs in Vermont, and total tech employment is projected to grow at a 7.5% annual rate from 2014 to 2022.
A Vermont tech job pays an average annual wage of $72,732, while the average annual Vermont wage is $44,540, which means that Vermonters in tech jobs make 63.3% more than the annual state average. The Tech in Vermont study concluded that the wage premium for all tech occupations is $28,192 per person.

As part of this total, the average annual wage for STEM Health jobs is $72,941, while STEM Core jobs have an annual wage of $72,482.

This higher average wage paid to tech jobs generates additional capital and spending throughout the broader Vermont economy.

Tech jobs support the Vermont economy by contributing up to two and half times more in state income taxes than the average Vermont wage earner, based on single filer data.
Each tech job in Vermont creates and supports additional jobs in the economy. The Tech in Vermont study found that this job multiplier varies depending on the industry and job, ranging from 0.7 to 2.1.

For STEM Core industries that multiplier is about 2 jobs for every tech job. That means for every 1,000 of tech jobs created, an additional 2,000 jobs are created in the Vermont economy.

Other studies have found similar impacts from tech jobs in general, pegging the multiplier as high as 3 to 5 additional jobs generated. It’s also worth noting that many of the non-tech jobs in tech industries also pay higher than average salaries.

Many traditional Vermont businesses such as agriculture, food production and artisan crafts carry a price premium for their goods in comparison to their national and international counterparts. Tech wage premiums allow tech workers to play an important role in funding these local industries, adding an additional $280 million to Vermont’s economy and supporting approximately 4,600 jobs.
The opportunity to create an economy that Vermont wants – one that is clean and green, with fiscal security, good paying jobs and career opportunities for our youth – lies in encouraging and growing the tech business sector and tech jobs it creates. In fact, the Vermont economy is currently creating more jobs than we can fill with Vermonters.

As the Tech in Vermont study shows, Vermont’s tech jobs are pervasive, fast-growing, high-paying and deliver economic benefits throughout the state.

Moreover, tech businesses align with Vermont’s environmental goals and working landscape, locate in downtowns and rural communities alike, and bring revenue and high paying jobs to the state. With the right attention and support, the tech sector could be even bigger.

There’s no reason Vermont can’t be widely celebrated as a preferred destination for technology workers and technology companies. But it will take dedicated work and action to make this vision a reality.

The businesses and jobs that fit under the technology umbrella are the sweet spot of the state’s economy and represent its economic development future. Public policy needs to recognize and embrace this opportunity.
Given that tech jobs are core to the success of Vermont’s economy, it is important to ensure that our state policies and programs support tech’s growth. Here are five public policy recommendations to support the continued growth of Vermont’s tech ecosystem.

To capitalize on its tech opportunity:

ONE
Vermont must evolve its own brand image. A new, forward looking positioning is required, one that can hold both our natural environment and our innovative technology culture in its broader conception.

TWO
Vermont needs to address the challenges of its infrastructure. This includes prioritizing the implementation of (true) broadband internet access, improving cell phone coverage and making housing more affordable in relation to wages.

THREE
Vermont needs to expand on its support ecosystem for entrepreneurs. It must continue to leverage the strengths of its academic institutions while solving for significant challenges tech firms face in securing early phase / startup financing.

FOUR
To better support the workforce needs of its tech industries, Vermont needs to actively and swiftly align its educational institutions with the growing needs of the state’s tech employers.

FIVE
The legislature needs to re-examine existing laws, modifying them in ways that support tech growth and the development of a modern economy. In so doing, Vermont must resist efforts to suppress these needed reforms.
TECH IS A STATE-WIDE OPPORTUNITY
across all counties, the tech sector is driving growth

TECH IS REAL ACROSS THE ENTIRE STATE

TECH SOURCES


Note: This is not intended to be a complete list, just a representative sample of firms and individuals who create tech jobs in Vermont and the institutions that support them.
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