

# Igniting and Sustaining a Skilled STEM Workforce and Closing the Opportunity Gap for America's Young Adults



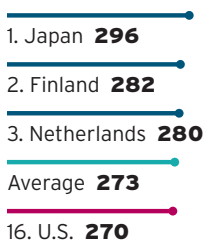
## Young Adults in the U.S. Face Challenges to Economic Opportunity

Today's youth are competing for 21st century jobs against international peers and they are less prepared. According to research, U.S. youth today are the first generation expected to earn less than their parents. The economic opportunity gap between the rich and poor is widening, especially for underrepresented minorities, making it harder to get ahead.<sup>1</sup>

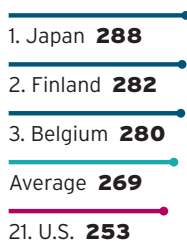
- One in seven young adults ages 16-24 is not in school or working and losing the opportunity to gain crucial education, skills, and work experience they need to get ahead.<sup>2</sup>
- Fewer students are completing degrees at both two-year and four-year institutions,<sup>3</sup> even though 65% of all jobs will require postsecondary education and training by 2020.<sup>4</sup>
- Millennials earn 20% less than their parents at the same stage of life.<sup>5</sup>

## Young adults in U.S. lag in reading, math, and problem solving skills<sup>6</sup>

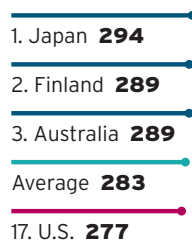
### READING



### MATH



### PROBLEM SOLVING



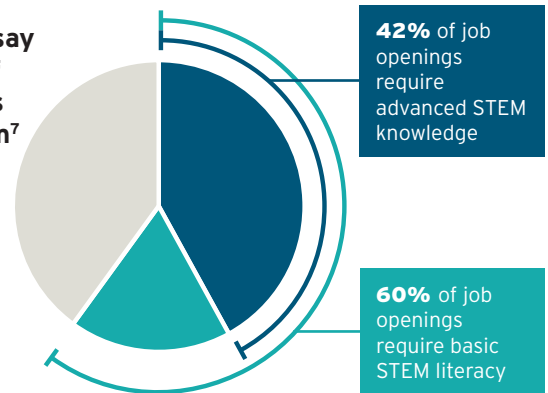
Many young adults are not aware that STEM middle-skill jobs pay well and are launching pads for further education and career advancement, which can be obtained with less than a four-year degree.

## Employers in STEM Industries Struggle to Find Workers with the Right Skills at the Right Time

While the economy continues to rebound after the Great Recession, today more jobs require postsecondary education. Employers are looking for qualified workers to expand and improve their STEM workforce, but with increasing demand for digital skills across all industries, employers continue to report challenges finding workers with the right skills at the right time.

Addressing this disconnect is critical for America's employers and the next generation of workers.

U.S. CEOs say shortage of STEM skills is a problem<sup>7</sup>



“ There are about 145 million jobs in our economy today and roughly 65% of them require some sort of education and training beyond high school. Jobs today are far more complex, and as a result there is a growing demand for specialized skills and occupational competencies obtained through formal and informal channels. We need a lot more training today in order to master the knowledge and skills required for those jobs. If one is unable to demonstrate competence in those in-demand skills, increasingly through having a particular credential, license or industry-based certification, you run the risk of being left behind.”

- Nicole Smith, Chief Economist, Georgetown University Center on Education and the Workforce

**STEM middle-skill jobs require strong technical skills and some college and hands-on training, but not a four-year degree.**

The average wage potential for STEM middle-skill jobs is \$53,000 per year.<sup>8</sup> How do workers get the valuable STEM technical education they need?



Community college STEM programs



Apprenticeships and work-based learning



Career technical education

## Our Vision

The Siemens Foundation launched the STEM Middle-Skill Initiative in 2015 to close the opportunity gap for young adults in STEM middle-skill, or technical careers. Leveraging the experience and expertise of Siemens as an industry leader and pioneer in workforce development, the Foundation focuses on three main objectives through partnerships with national leaders in the field: raise national awareness of the opportunity in STEM technical careers, rehab the image of STEM skilled career opportunities, and scale effective training models. With our partners we:

- Explore opportunities and challenges for expanding apprenticeships in the United States and the public-private partnerships necessary to support them
- Support states and local communities in their efforts to attract and recruit students into career technical education
- Expand effective work-based learning programs for young adults and employers and share best practices
- Identify and scale excellence in community colleges
- Recognize exemplary young adults in STEM community college programs and educate their peers about STEM technical careers through their stories

**Learn more about what the Siemens Foundation is doing to build and sustain today's STEM workforce and close the opportunity gap for America's young adults:**

[www.siemens-foundation.org/programs/stem-middle-skill-initiative/](http://www.siemens-foundation.org/programs/stem-middle-skill-initiative/)

## Real-World Experience

“ No one expects the path to medical school to pass through a community college. Being a surgical technologist has provided me with so much exposure within the hospital environment. I have built relationships with a lot of physicians here, and I think that it is giving me the upper hand and helping me move along with my career choices. It is important for students—and their parents—to remember that there is more than one path to success.

**- Michael Miller, Certified Surgical Technologist, Multicare Tacoma General Hospital, Tacoma, WA**

Siemens Technical Scholar from Renton Technical College



## Pathway to Economic Opportunity and a Satisfying Career

“ I am the first person in my family to earn a college degree. I felt after I graduated I had everything I needed to get the job that I wanted. The process technology degree was very attractive to me because it was only going to take me two years to earn it, it wasn't going to bury me in student debt, and it offered me the opportunity to be able to provide for my family in the future. I feel that there's always going to be a need for production technicians. So, I feel like my job is secure.

**- Angela Munoz, Production Technician, BASF, Lake Jackson, TX**

Siemens Technical Scholar from Brazosport College



## Notes

1 CFED and Institute for Policy Studies. [http://www.ips-dc.org/wp-content/uploads/2016/08/The-Ever-Growing-Gap-CFED\\_IPS-Final-2.pdf](http://www.ips-dc.org/wp-content/uploads/2016/08/The-Ever-Growing-Gap-CFED_IPS-Final-2.pdf)

2 Opportunity Nation. <https://opportunitynation.org/the-problem/>

3 National Student Clearinghouse Research Center. <https://nscresearchcenter.org/signaturereport10/>

4 Georgetown University Center on Education and the Workforce. <https://cew.georgetown.edu/cew-reports/recovery-job-growth-and-education-requirements-through-2020/>

5 Young Invincibles. <http://younginvincibles.org/wp-content/uploads/2017/01/FHYA-Final2017-1.pdf>

6 ETS. <https://www.ets.org/s/research/30079/overview.html>

7 Burning Glass Technologies. <http://burning-glass.com/research/digital-skills-gap/>

8 Brookings Institution. <https://www.brookings.edu/research/the-hidden-stem-economy/>