

The Value of Middle-Skill Development
State Workforce Board Chairs, Executive Directors, and NGA
Remarks for David Etzwiler, CEO, Siemens Foundation
August 24, 2015

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My thanks to Fred Webber for the kind introduction and to our partners at NGA for inviting me to participate in today's conversation. It's an honor to share this platform with Jonathan [Rothwell] whose work has helped the Siemens Foundation understand the opportunity with STEM middle-skill. And, my thanks to each of you as well for being here and for the work you do with your state workforce boards. I know your time is extremely valuable and your service is a reflection of your commitment to your state and your communities. I am grateful for your work.

And it's great to be here with you in beautiful Annapolis, Maryland. What a wonderful location for a conference! From the Naval Academy, to the oldest active state house, to sailing and crab cakes, Annapolis is rich with a history and beauty that I'm sure you'll enjoy during your time here. That's a lot to compete with but for the next few minutes I will do my best.

Today, I'd like to talk with you about the workforce development program at the Siemens Foundation, which is focused on STEM middle-skill development, and why we decided to focus in this area. I'd also like to tell you about--and enlist your support for--the project we're implementing with our partners at NGA and the important role your states can play. But, first, let me begin by sharing a little about my background and why I'm involved in this work.

As Fred mentioned, I'm the CEO of the Siemens Foundation. Before joining the foundation, I led the Decade of Discovery in Diabetes, a partnership of the Mayo Clinic, the University of Minnesota, and the State of Minnesota to improve health and drive economic growth. Most of my career, though, was spent with Medtronic, the largest medical device maker in the world, as Vice President of Community Affairs and Executive Director of the foundation. There, I focused on aligning our philanthropic work with the company's business strategy to build value for both organizations and society by leveraging business expertise and assets. My time at Medtronic made me a card carrying member of the shared value club—those that believe properly aligning the people, products, and programs of great companies with the needs and opportunities of society provides the highest return to both.

As I was approached with the opportunity at Siemens, it didn't take long to understand the possibilities. Siemens is a leading company in high speed and light rail technologies which move more people, faster, safer and cleaner to and from their work and families than we can do by highways alone. Siemens is a leading company in health care with life-saving laboratory and imaging technologies that diagnose life threatening diseases early, quickly and cost-effectively. Siemens is a leading company in natural gas, wind generation and distribution to power our homes and economies sustainably and cost effectively. And, if that weren't enough, Siemens is a leading company in manufacturing processes and information technology.

Honestly, if you can't imagine aligning the people, products, and programs of Siemens to better serve society you haven't got a creative bone in your body! The real question, though, is how does one go about that?

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I've spent most of my career working at the intersection of government, business, and philanthropy. And, I know first-hand that public and private partnerships are essential to achieve shared goals in addressing societal need and business opportunities. I know I'm preaching to the choir here, but few issues fit in that sweet spot better than workforce development. This room is filled with CEOs, executive directors and community leaders who give their time and expertise in pursuit of a shared goal with each of your state governments – a highly skilled workforce that will meet the skill demands of your businesses, open doors for working families to become economically secure, and help your communities prosper. Siemens understands and shares that motivation and it's why we've invested our own time and resources in workforce development.

When I joined the Siemens Foundation as CEO in 2013, my board—made up of Siemens business leaders—and I took a hard look at our philanthropic portfolio and asked tough questions. Does our work line up with the company's business assets and opportunities? Are we addressing a real societal need? Are we leveraging Siemens' expertise and brand to best serve society? While the answer was a resounding yes to much of our work, we knew we could do better.

I mentioned that Siemens is a leader in energy, health care, manufacturing, information technology, and many more STEM related industries. Central to that model—including for its customers—is workforce development, especially STEM middle-skills. From apprenticeships to community college partnerships, Siemens invests in strategies that address its talent needs and strengthen the talent pipeline for others in the sector—and in its communities. As a German company, Siemens' roots run deep in apprenticeships.

- In Germany, Siemens has approximately 10,000 people participating in its apprenticeship program each year. And, it's reflected in the company's leadership. Anne Cooney, President of Process Industries and Drives, began her career as a machinist apprentice in a four-year program. Siemens' U.S. Chief Financial Officer and Foundation board member, Klaus Stegemann, began his career as a Siemens apprentice.
- And like all of you, Siemens' business leaders give of their time and expertise to promote training and skills development. Our board chairman and U.S. CEO, Eric Spiegel, serves on President Obama's Advanced Manufacturing Partnership and led the development of an apprenticeship how-to guide for employers, with our friends at Dow and Alcoa.
- And, Siemens Mechatronics Systems Certification Program utilizes lessons from its dual education program in Germany to help education partners across the globe, including community colleges in the US, provide training that meets industry and international standards in Mechatronics.

These experiences, the particular assets Siemens can bring to the table, and our awareness of the challenges many young adults face in the classroom and the workplace, led us at the foundation to radically change our focus..

But why STEM middle-skill development for millennials? When we looked at the issue in depth, a few key opportunities in STEM middle-skill stood out to us.

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First, as Jonathan's research points out, these jobs provide real economic benefit to communities and to workers.

- Based on the 2011 data he looked at, 20 percent of all U.S. jobs (26 million) are STEM jobs – requiring a high-level of knowledge in at least one STEM area. That’s double the share of STEM jobs since the industrial revolution.
- Half of all STEM jobs don’t require a four-year college degree and pay \$53,000 on average – that’s 10 percent higher than non-STEM jobs with the same credential demands.
 - 50 percent of STEM jobs are in manufacturing, health care, or construction industries by the way.
- Importantly, STEM-oriented metropolitan areas perform better on an array of economic indicators – from lower unemployment, to higher wages, and the rate of exports.

That’s the kind of accessible pathway that can really make a difference in the lives young people, their families, and our communities. And yet, only one-fifth (or 20 percent) of the \$4.3 billion federal investment in STEM goes toward middle-skill development.

Second, young people in the U.S. are facing significant barriers to education and employment and are struggling to compete with our international peers.

- The unemployment rate for young people ages 16-19 in the U.S. is 16.2%, more than triple the national rate (5.3).
- And some 5.6 million young people in the U.S. are not in school and are not working.
- And, according to a recent study by the Educational Testing Service, U.S. millennials are struggling when it comes to numeracy and literacy skills compared to our international peers. In literacy, the U.S. scored lower than 15 of the 22 participating countries. In numeracy, the U.S. ranked dead last.

At the same time, college costs continue to rise, as has the student debt load, making access to postsecondary education difficult for many.

- According to the National Center for Education Statistics, the costs of one year at a four-year public institution in 1982 was about \$7,500 in today’s dollars compared to \$17,000 today.
- For a two-year degree, the increase was from \$5,632 as compared to \$8,900 today.
- From 2002 to 2012, after again adjusting for inflation, the cost of a four-year degree at public institutions rose 41 percent.
- And, according to data from The Institute for College Access and Success, 71 percent of all college graduates have student debt. Graduating seniors with loans in 2012 carried \$29,400 – that’s a 25% increase in real dollars from 2008.

The gap between where too many young adults find themselves today and the opportunities possible with STEM middle-skill jobs is simply too wide for us to accept. And, it’s an area where we think the Siemens Foundation can make a difference. So, here’s our strategy for helping close this opportunity gap.

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First, we must change the perception of middle-skill job opportunities in this country from a “fall back option” to a “career pathway of choice.” These are great jobs accessible with low to no student debt and unlimited potential. Besides being a good job in its own right, middle-skill jobs are often a spring board to limitless career pathways. With our partners at the Aspen Institute’s College Excellence Program, we’re building a cadre of young people to spread the good word about the value of these opportunities with other millennials. In addition to

supporting Aspen's Prize for Community College Excellence, we're launching the Siemens Technical Scholars program, which will profile successful STEM middle-skill scholars in the classroom and the workplace to increase awareness about these great career pathways and debunk the myth that these are "dirty," "loud," or "dead end" jobs. Like most of you, I've seen these jobs first-hand and nothing could be further from the truth.

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Some of you may have wondered who the young people are featured at the beginning of the presentation. This is Hope Johnson, 21, Douglas Rodriguez, 20, and Rebeca Espinal, 21 – all graduates of the apprenticeship program at Siemens' Charlotte energy hub; all recipients of an associate's degree in mechatronics from our education partner, Central Piedmont Community College; all Siemens employees and a critical part of its talent pipeline; and all poised to make upwards of \$50,000. They will tell you there's nothing dead end about their jobs. Let's hear it from Rebeca herself.

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With the Siemens Technical Scholars project, we hope to identify dozens and dozens of Hopes, Douglas' and Rebecas and put a megaphone to their stories.

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Second, we're identifying, championing and scaling proven workforce training models.

Knowing full well that states are where the action is on this, we knew there was no one better to work with than NGA's Center for Best Practices. Together, we're looking at what makes work-based learning models effective, how to bring them to scale for young adults and how to move them into STEM fields. Why work-based learning? The closer the connection between the training and the demands of the employer or an industry, the more likely that training will lead to a job or advancement. And, it's an underutilized method that we believe holds the promise of opportunity and is ripe for growth.

That's why our partners at NGA will soon be soliciting applications for our new project, the Siemens-NGA Partnership to Scale Work-based Learning for STEM Careers (catchy, huh?). Using the policy academy model many of you are familiar with, Martin, Brent, and the team at NGA will ask your states to share work-based models that have proven effective and have the potential to expand into advanced manufacturing, health care, information technology, or energy. Later this fall, six states will be selected to receive recognition, a grant and benefit from intensive technical assistance in scaling their models to serve more students and employers, and the STEM industries that make their economies prosper. And, we hope you'll go back to your home states and governors and encourage them to apply.

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We believe there is a lot states can gain by participating. Winning states will receive an implementation grant to carry out their project, but more importantly, they'll have access to the expert advice and assistance from the NGA team at every step of the process. Participating states will work together to solve some of the biggest challenges they face in making work-based learning a fundamental part of their education and training systems. Winning states will:

- be recognized as leading the way in work-based learning;

- leverage the relationships you've worked to build on your workforce boards – between government, business, labor, and education – to advance a stronger STEM talent pipeline;
- help STEM industries and businesses grow and engage employers in a deep and meaningful way;
- shape the next generation of workers who will hopefully stay in state to invest their talent;
- and keep young adults productively engaged.

That's a win-win-win for states, their business community, and their workforce.

Why are we focusing on states in this project? We know that states are leading the way when it comes to real change in education and training. Most of the many improvements in the new federal workforce law are a reflection of best practices states have tried and perfected. From sector-based strategies, to integrated basic skills and training models, to common performance indicators – these are examples of good policy that started at the state level. As state board chairs, who provide strategic investment direction for training programs from WIOA [the Workforce Innovation and Opportunity Act] to career and technical education, you understand well that states have the ability align policy, programs, and funding to support their goals in a way no one else can.

And, we're excited to see where this project will take us and work-based learning as a formalized component of our education and training systems. Through our partners at NGA and the states participating, we will identify the key principles that make work-based learning effective and scaleable. And, those lessons will be shared with other states interested in pursuing the same goals.

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In the end, this work is about making a difference in the lives of young adults across this country—the Hopes, the Douglas' and the Rebecas who don't yet know of the power and potential they hold. With you and your partners in state leadership, we know it's achievable.

Thanks for your time and I'm looking forward to your questions.