

2015 Kentucky Workforce Summit, Solutions for Economic Competitiveness  
Remarks for David Etwiler, CEO, Siemens Foundation  
October 19, 2015

My thanks to Beth Kuhn for the kind introduction and to the Kentucky Chamber and the Kentucky Education and Workforce Development Cabinet for inviting me to speak today. I'd also like to thank those of you in attendance for being here and for contributing your time and expertise to workforce development in a state I know is near and dear to each of you. It's the public and private partnerships represented in this room that make any workforce development effort effective.

I'm thrilled to be with you all today and to be in the Commonwealth. While preparing for my remarks, I learned a lot about your ongoing efforts to train a highly skilled workforce. And one of the things I'm so impressed with is your pure determination and initiative to continuously improve on every front. I understand from our partners at NGA that Kentucky has made great strides in achieving its goals as a participant in their talent pipeline academy, yet another demonstration of your commitment to building an education and training pipeline that meets the needs of employers and workers across the state.

From integrating sector-based strategies throughout your workforce system, to supporting a connected data system that covers the pipeline from the classroom to the workplace, Kentucky has placed a premium on systemic changes that will last for generations to come. Yet another example: many of your communities have achieved, or are working toward recognition as a "work ready" community, demonstrating to local employers your commitment to ensuring workers have the baseline skills necessary to be successful in further training and on the job. And, your efforts to develop high performing workforce development boards is setting a new standard for other states.

But that's not all. Kentucky is leading the way on demand-driven programmatic interventions. From the KY FAME model, responding to the complex needs of employers in advanced manufacturing across the state, to your focus on apprenticeships and work-based learning to provide in-demand skills, Kentucky continues to demonstrate the importance of employer engagement in designing a responsive and effective workforce system. And, you've never forgotten about those most in-need. Your work with low-skill adults as an "Accelerating Opportunity" state advancing effective adult and basic skills education has to be acknowledged.

It's clear that Kentucky is focused on developing a high performing workforce system that works for employers, workers and your communities, and it's an honor to be with you and learn from you.

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 the projects we're implementing with our partners. But, first, let me begin by sharing a little about my background and why I'm involved in this work.

As Beth 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. And by the way, I was Medtronic's representative on the board of the Minnesota Chamber of Commerce during my time there.

When 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.

In fact, just down the road in Louisville, the Siemens Rail Automation facility houses the global headquarters for the Siemens Freight and Products Business Unit, led by Kevin Riddett, President of Siemens Mobility in the U.S. The Louisville facility employs 340 people across engineering, manufacturing and assembly, sales, marketing and program management. There, rail signaling and communications products are manufactured for railways across the globe. They also produce software solutions such as Positive Train Control, a signal enforcement system, made specifically for the North American region.

In Marion, the Siemens Rail Automation facility has continued to grow both in size and production since opening its doors in 2001. Beginning work with relay production, the facility has expanded to cover wayside warnings for Norfolk Southern Railroad and the manufacturing portion of Siemens traffic control operation. In 2013, a \$2 million, 26,000 square foot addition was completed in the facility, which now employs about 280 people.

Earlier this month, coinciding with the celebration of National Manufacturing Day, the Marion facility received a great honor from the Commonwealth – the Governor's Safety and Health Award – in recognition of more than 1 million hours without a lost-time incident, demonstrating their commitment to Kentucky and its workers.

Siemens is also 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.

Several years ago, understanding the positive economic impacts energy optimization can have on the budget, the folks at the University of Louisville partnered with Siemens Building Technologies to make their facilities more energy efficient. And the partnership paid off. According to a report from U of L, technology and energy optimization improvements generated \$5.2 million in savings through 2013, allowing them to reinvest those savings in university operations. The projects also supported 71 jobs and \$9.3 million in business sales in the Louisville metropolitan area economy. That's the kind of partnership that makes a real difference.

After all of that, 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?

When I joined the Siemens Foundation in 2013, my board and I took a hard look at our portfolio and asked tough questions. Does our work line up with the company's business assets? Are we addressing a real societal need? And, critically, are we leveraging Siemens' knowledge and expertise 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 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.

The 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.

And, here in Kentucky, Siemens is partnering with local workforce development organizations to meet their talent needs. Earlier this year, Siemens worked with the Kentucky Career Center in Louisville and participated in the Kentuckiana Works Manufacturing Job Fair, resulting in the hiring of 3 production employees.

They also met with the Kentucky FAME initiative [Kentucky Federation for Advanced Manufacturing Education] and are looking to kickoff a partnership with them in FY16 to develop training programs to build a pipeline for production workers in the area of Electronics Test Technicians.

It was those types of 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, as I'll discuss in a moment, that led us to radically narrow our focus within STEM.

So, why STEM middle-skill development for young adults? Well, when we looked at the issue in depth, a few key opportunities stood out to us.

First, as research from the Brookings Institution points out, these jobs provide real economic benefit to communities and to workers.

- Based on the 2011 data examined, 20 percent of all U.S. jobs 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 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.

- For September, the unemployment rate for young people ages 16-19 in the U.S. was 16.3 percent, more than triple the national rate [5.1 percent].
- And some 5.6 million young people in the U.S. are not in school and are not working.
- 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.

**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, STEM 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 “dead end” jobs. Like most of you, I’ve seen these jobs first-hand and nothing could be further from the truth.

**Second, through our partners, we’re identifying, championing and scaling proven workforce training models.** Knowing that states are where the action is on this, we knew there was no one better to work with than the National Governors Association’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 recently released the application to states for our new project, the Siemens-NGA Partnership to Scale Work-based Learning for STEM Careers. Using the policy academy model many of you are familiar with, the team at NGA is asking 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 scale their models to serve more students and employers, and the STEM industries that make their economies prosper.

Why are we focusing on states in this project? Many of the improvements in the new federal workforce law are a reflection of best practices states have tried and perfected. And states, with the help and support of their local communities, have the power to align strategic investments across policy, programs and funding to support their goals in a way no one else can. We think this is a great opportunity for the participating states and, we’re excited to see where this project will take us and work-based learning as a formalized component of 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.

None of this will be possible without states like Kentucky, committed to taking the lead on meeting employer demand and opening new doors for young people to opportunity through work-based learning. We hope you’ll consider applying to this new NGA academy and allow all of us to learn from your efforts to make work-based learning part of the fabric of your education and training system.

In the end, this work is about making a difference in the lives of young adults across this country—those who don’t yet know the power and potential they hold on behalf of themselves, their families, their communities and our country. With our partners at NGA, and the states who work to make work-based learning part of their training system’s DNA, we know it’s achievable.

Thanks for your time.