Proviso 117.127

South Carolina’s Workforce Study

Submitted to the South Carolina General Assembly

February 1, 2016

State Board for Technical and Comprehensive Education

In collaboration with:

SC Department of Commerce | SC Department of Education | SC Department of Employment and Workforce
Introduction

Over the past five years, South Carolina has seen unprecedented economic development growth. This job growth has surpassed that of Georgia and Tennessee while matching North Carolina’s effort. This success is due in large part to the state’s ability to draw new residents with a business-friendly climate.

This growth also brings with it the ever-increasing demand for highly-skilled, ready workers.

It is important to note that the majority of these jobs require more than a high school diploma and less than a four-year degree. These high-demand jobs require post-secondary certificates, credentials and, in some cases, a degree.

Yet, 65 percent of South Carolinians aged 25-54 do not have a post-secondary degree or credential.

Couple the lack of post-secondary education with an aging workforce fast approaching retirement and South Carolina faces a workforce skills gap.

Building upon existing collaborations among the SC Technical College System, Department of Commerce, Department of Education and the Department of Employment and Workforce, the following report has been developed to provide an assessment of South Carolina’s current situation and challenges along with recommendations for addressing them and moving forward.

In fact, South Carolina is perfectly poised to address the challenges effectively and swiftly.

One key reason is the existence of the Education and Economic Development Act of 2005 (EEDA). The forethought of our policymakers to put this act in place in 2005 allows our state to move exponentially faster today with addressing workforce concerns.

Many components of EEDA address the latest workforce issues facing our state. Unfortunately, the program saw many cuts associated with the Great Recession and was not able to achieve all the goals as originally set forth by the act. However, the framework is in place and codified. By redirecting funding back to the program, the state can move quickly to address talent pipeline issues.

At the recent Southern Regional Education Board conference in Jacksonville, the perfect metaphor was used to describe EEDA. South Carolina’s EEDA is like owning a pristine Corvette convertible parked in the garage. The car is in mint condition and has all the bells and whistles. It is a great automobile, but it is out of gas.

By giving EEDA the fuel it needs to reinvigorate its original intention, South Carolina can work successfully to meet its workforce challenges. Namely the establishment of a coordinating council based upon EEDA’s original concept will aide in the coordinating the implementation of the workforce skills gap recommendations made in this report. In addition, successful existing programs like dual enrollment, apprenticeship and short-term credentialed training should also be enhanced through additional funding to offset tuition costs. Soft skills must also be successfully integrated into all initiatives to meet the workforce demands in this area.

Meeting the workforce challenges will take resources and funding.

The people of South Carolina are our state’s strongest asset. By providing them with the education and training they need to ensure they are skilled and ready to fill the high-demand jobs in our state, South Carolina is making an investment in its future.

And, the future competitiveness of South Carolina depends on a strong and capable workforce.
Background
Proviso 117.127 calls for the SC Technical College System in collaboration with the SC Department of Commerce, the SC Department of Education and the SC Department of Employment and Workforce to develop a statewide plan where the technical colleges, school districts and career centers shall work together to increase access to coursework, equipment and facilities as well as utilize the EEDA, dual credit courses, adult education programs and career and technology courses and programs.

It further requires that the plan include findings and recommendations regarding costs and opportunities for the state and its businesses and citizens for the enhancing of existing, or creation of new, subsidized training programs, which offer career training and certification and job placement assistance to citizens pursuing careers in high-demand jobs in critical need industries throughout the state.

Existing Workforce Initiatives in South Carolina

*Education and Economic Development Act (EEDA).* Enacted in 2005, EEDA was designed to give South Carolina students the educational tools needed to build prosperous, successful futures. EEDA set up a system called Personal Pathways to Success to help students and business and industry fill the gaps between student prep and business requirements and authorized the South Carolina Occupational Information System (SCOIS), a career exploration system. Combining high academic standards with enhanced opportunities to explore career options and build real-life working skills, Personal Pathways gives students the guidance and experience they need to take full advantage of real opportunities in the South Carolina economy. Personal Pathways maintains the state’s established high school graduation requirements – 17 required academic core courses plus seven elective – but requires that all students declare a career major in one of a number of different clusters of study. Beginning as early as elementary school, Personal Pathways, through tools like SCOIS, provide programs of career awareness and exploration. Skilled counseling is a linchpin of the program. By the eighth grade, students and their parents or guardians sit down with counselors and create individual graduation plans (IGPs) that lay out their personal education and career strategies using assessments from SCOIS. IGPs specify students’ choices of cluster, major, post-secondary goals, high school coursework, out-of-class learning experiences and more. Students and their parents revisit these choices at least once a year to make adjustments.
Dual enrollment. Made possible in South Carolina by the 2005 Education and Economic Development Act, dual enrollment applies to students who are enrolled in both high school and college.

There are many benefits to taking advantage of dual enrollment. The Community College Research Center’s recent study found that dual enrollment participation is positively related to a range of college outcomes, including college enrollment and persistence, greater credit accumulation and a higher college GPA.

The SC Technical College System provides 95 percent of the state’s dual enrollment programs. Overall, the System had 15,283 dual enrollments during the 2012-13 academic year. This number represents a 7 percent increase from 2011-12. The number of dual enrollment course sections offered by our colleges continues to rise. At the end of AY2012-13, the System offered 1066 course sections – 61 more than the previous year.

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Source: EDSS VER 107

Note: These data include all course sections offered in the System that have high school students taking college courses. A separate report captures data for course sections that consist of 100 percent high school/dual enrollment.

Adult Education. Since 1942, the tests of General Education Development (GED) has offered adults an alternative path to earn a high school diploma. Adult education in South Carolina provides more than just GEDs. Adult Education also assists adults in becoming literate and obtaining the knowledge and skills necessary for employment and self-sufficiency as well as assists adults who are parents to obtain the educational skills necessary to become full partners in the educational development of their children. This includes English as a Second Language and National Career Readiness Certifications.

Career and Technology Education. South Carolina’s Career and Technology Programs of Study provide leadership and services to districts and schools supporting grade-level, standards-based curricula through the integration of academic and career and technical instruction for students in grades seven through twelve. CATE prepares youth for fast-growing, high-paid jobs in high-growth industries - including healthcare, the skilled trades, STEM, information technology and marketing.

Approximately 186,000 students were enrolled in at least one CTE course in 2012-13. Over 300 CTE courses were offered in secondary schools in 2012-13. The Placement Rate into post-secondary education,
employment, or military service for CTE students who complete at least four courses in a state-approved CTE program was 96.5 percent. The Graduation Rate for CTE students who complete at least four courses in a state-approved CTE program was 95 percent. (As compared to the SC state average of 77.5 percent)

**South Carolina Talent Pipeline Project**

**Workforce Alignment through Sector Strategies**

Sector strategies — regional, industry-focused approaches to building skilled workforces — are proving to be one of the most effective ways to align service providers to address the talent needs of employers. Sector-based strategies take a comprehensive, broad-based approach to identifying and addressing skill needs across key industries within a region rather than focusing on the workforce needs of individual employers on a case-by-case, “transactional” basis. These strategies require workforce and other regional service providers to establish engaged and sustainable relationships with employers to determine the specific skill and occupational requirements to meet industry needs.

The objective of sector strategies is to align all partners, including economic development, education and workforce around the same goal of creating talent pipelines for critical growing industries. The result of productive industry partnerships is the creation of an ongoing talent pipeline that meets employer needs and creates family-sustaining careers that can be undertaken by South Carolinians.

A statewide Leadership Team comprised of business leaders and representatives from the Department of Commerce, Department of Education, Department of Employment and Workforce, the SC Technical College System and the State Workforce Development Board developed and incorporated the following vision in creating a talent pipeline:

South Carolina will have a talent development system that supports strong regional economies by aligning the resources of all partners, public and private, toward developing a workforce supply chain that enhances development of consensus-based targeted industry sectors and creates meaningful career pathways for a range of workers and skill levels in important regional industries. The system will be characterized by a sustained, trusted relationship among the workforce system, education, economic development and industry.

**Six-step Process**

1. Gather workforce data and intelligence- The objective is to understand the regional economy and industry staffing structure and to achieve consensus across disciplines on the industries to target. There is collaboration in collecting and analyzing data; anecdotal information on industries’ futures is collected systematically from stakeholders, especially economic development entities; and collaborative decisions are made on identifying target industries and occupations.
2. Form sector partnership: convene partner vision- Initially; workforce, economic development and education partners are convened regionally to develop a sector partnership. This group/team is then responsible for the development of sector strategies and career pathways.
3. Assess talent needs- Occupational skill gaps, training and credential needs are identified along with an inventory of education and training programs. An Education and Training Gap Analysis is developed in relation to industry and workforce needs.
4. Develop strategies and align resources- The partners work collaboratively to identify and develop education, training and related resources to convert into investments that actualize Career Pathways.

5. Operationalize- Sector strategies are transformed into actual customer - centered service delivery and business services target sectors on a regional basis. This will involve reengineering SC Works customer flow. Having created a shared understanding of the region’s workforce investment needs, a shared vision of how the regional workforce system can be designed to meet those needs and agreement on the key strategies to realize this vision, regional partners will determine the most efficient and effective arrangement for organizing and delivering services.

6. Assess, adjust, improve and sustain- The full partnership team will continue to assess the value received by industry employers as well as customer flow and jobseeker/student outcomes. During this phase, recommendations for adjustments and improvements are formulated and “Can Be” changes are implemented.

**Project Objectives and Results**

The mission of the Talent Pipeline Project is to facilitate the interdisciplinary public/private sector statewide and regional planning that will build, begin to implement and provide for sustaining a talent development system at the regional level.

Project objectives are to provide at the state and regional level, a framework for implementing strategies for meeting businesses’ needs for skilled workers and workers’ needs for good jobs.

- Create the sectors mentality and approach
- Marry sectors to career pathways development
- Begin unification of business service delivery

To date, the following has been achieved:

- The State Leadership Team was formed, which developed a Team Charter
- An interagency agreement on regional configuration was completed
- A statewide Sector Strategies Orientation webinar was facilitated
- A Sector Strategies 101 training session for regional teams was facilitated
- Statewide target sectors were identified
- Data analysis for regional industry sectors is underway

Remaining project activities include:

- January – February: Regional teams to complete Mini-Asset mapping activity and self-assessment for sector strategy readiness
- March: Regional teams convene for two-day Sectors Planning Institute
- March: Ongoing statewide website/toolkit to support sectors approach deployed
- March – April: Final statewide and regional data reports completed
- April: Virtual technical assistance to regions
- April-May: Prepare recommendations and final report, including recommendations for each region to complete its initial sectors planning process.
Statewide Target Sectors

1. Diversified Manufacturing
   a. Metal and Metal Fabricating (including Vehicles)
   b. Textiles
   c. Lumber and Wood Products
   d. Chemicals, Rubber and Plastics
2. Business and Information Technology Services
3. Healthcare
4. Transportation, Logistics and Wholesale Trade
5. Construction

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South Carolina Business and Industry Survey

Overview of the Survey

Working in partnership with the Department of Commerce, the Department of Education and the Department of Employment and Workforce, the SC Technical College System surveyed the workforce development needs of the state’s business and industry. The System conducted an electronic survey and in-depth telephone interviews with business and industry leaders across the state. The goal of the survey and
interviews was to ensure that existing and future training programs provide the necessary skills and training to prepare students for careers in high-demand fields and critical need positions.

**Electronic Survey.** The System sent 760 surveys via email to business and industry leaders across the state. This effort garnered 202 responses – a 27 percent response rate. This responses rate is above the national average. The average response rate for an email survey is 20-25%.

The top five industries represented in the electronic survey responses were 1) advanced manufacturing, 2) other, 3) construction, 4) healthcare and 5) hospitality and tourism. “Other” includes such fields as manufacturing, distribution, agriculture, childcare and pharmacy. Additionally, the size of companies who responded varied: 33 percent were companies with 300 or more employees; 33 percent had 100-300 employees; 15 percent had 50-100 employees; and 19 percent had less than 50.

When asked about expected growth over the next 2-5 years, 71 percent expect to grow by at least ten people over the next two years. 74 percent expect to grow by at least ten people over the next five years. 83 percent expect attrition due to retirement.

The top three recruiting sources for respondents were 1) online recruiting websites like Monster and CareerBuilder (68.66 percent), 2) technical college career centers (53.73 percent) and 3) SC Works centers (52.74 percent). The top three training providers used by respondents included 1) company-provided or in-house training (73.74 percent), 2) local technical college (53.54 percent) and 3) vendors (29.29 percent). When asked about existing career pathway tools such as internships, co-ops, apprenticeships and training, the top four tools included 1) internship and/or co-op (70.56 percent), 2) training that leads to a recognized credential or certification (65.99 percent), 3) adult apprenticeship (55.33 percent) and 4) customized short-term training (54.82 percent).

**In-depth Phone Interviews.** The System conducted in-depth phone interviews with 23 business leaders across the state to assess in more detail their specific needs as they relate to workforce challenges. Participants in the phone interviews included:

1. Jeromy Arnett, United Tool & Mold
2. Carol Barry, Savannah River Nuclear Solutions
3. Danny Black, Southern Carolina Alliance
4. David Brown, MAU
5. Lonnie Carter, Santee Cooper
6. Ryan Childers, BMW
7. Brad Dean, Myrtle Beach Chamber
8. John Durst, SC Hospitality Association
When asked about anticipated growth, 95 percent were hopeful about job openings over the next two years and anticipate those numbers to increase over the next five to seven years. 75 percent expect a fair percentage of these job openings will be due to retirements and anticipate that number increasing as they look out longer term (5-7 years).

The top three recruiting sources for respondents were 1) online recruiting websites like Monster and CareerBuilder, 2) social media and 3) employment agencies. The top five training providers used by respondents included 1) company-provided or in-house training, 2) local technical college, 3) four-year colleges or universities, 4) Apprenticeship Carolina and 5) Career and Technology Education (CATE) Centers. When asked about existing career pathway tools, the top three tools included 1) internship and/or co-op, 2) training that leads to a recognized credential or certification and 3) customized short-term training.

Interviewees were asked what challenges keep them up at night, the top responses included:

- Finding qualified, skilled workers
- Finding workers with a good work ethic
- Finding workers with soft skills and communication skills
- Finding workers with problem-solving and critical-thinking skills
- Retaining good workers

Respondents were also asked to provide a one-minute message to state leaders, including the Governor and General Assembly. Responses were as follows:

- Educate and prepare our workforce at young age – as early as elementary school for manufacturing and STEM-related fields
- Educate parents, teachers and students about how manufacturing and other STEM-related fields have evolved
- Continuously focus on STEM education and workforce readiness focusing on both present and long-term needs
- Build collaboration among schools, business and the state
- More funding for education is critical
Interviewees were asked to provide their top suggestion for K-12 educators, responses included:

- Educate students on today’s reality of manufacturing and other STEM-related employment
- Develop students’ math skills and encourage STEM curriculum
- Identify and build upon each child’s strengths at an early age
- Align education with the needs of the community

Lastly, participants were asked to provide any additional suggestions or observations they would like included in the report:

- Too much pressure on kids to pursue four-year degrees – not all good jobs require a four-year degree
- Collaboration is key – education provided needs to reflect the workforce needs of the state
- Focusing on manufacturing, STEM and healthcare is essential
- Soft skills and good work ethic are important

Workforce Challenges Identified in the Pipeline Study and Business & Industry Survey

- Job openings and workforce demand will increase over the next 2-5 years
- A great deal of this increase will be due to an aging workforce
- This will lead to unprecedented demand in manufacturing and other STEM-related fields, including healthcare
- Finding qualified, skilled workers in these fields is a top priority
- Current perception issues exist around careers in these fields. These perception issues must be addressed
- Perception issues also exist around the educational pathways to these careers
- Soft skills, critical-thinking skills and a good work ethic are challenges faced by employers with the existing workforce
- Competition for good workers compounds these problems
- Collaboration among educators and the business community is essential to successfully addressing challenges

Proposed Strategies for Addressing Challenges

In order to address the identified challenges, we recommend focusing on The Three P’s: Perception, Pipeline and Partnerships. This approach will allow us to shift perceptions, broaden the pipeline of skilled workers and develop partnerships designed to sustain development and growth.

Perception

*Overcome the current perception related to manufacturing and other STEM-related fields and their educational pathways*

A considerable factor in South Carolina’s workforce challenge is the unfavorable perception of manufacturing and other STEM-related fields. This perception is also often associated with the educational pathways to careers in these
fields. Many South Carolinians do not see these jobs as viable career options and that mindset must be reset. These perceptions are based on an outdated view of the fields.

For instance, manufacturing is not your grandfather’s manufacturing. Today, South Carolina’s manufacturing facilities are filled with some of the most technologically advanced, state-of-the-art equipment in the world. As Warren Helms with Boeing states “I tell people not to take offense to this, but my factory floor is cleaner than your kitchen floor at home.”

The information technology industry also faces perception issues and stereotypes. The information technology field is much more than working at a help desk or as a computer programmer. There is an information technology component in almost every industry and as technology advances these careers expand exponentially. Careers in information technology are not boring; they are not just for people who prefer to work alone, and they are not unstable due to outsourcing risks. These are outdated perceptions. In fact, the demand for qualified information technology workers is great.

Healthcare is also not immune from perception issues. Healthcare encompasses more career opportunities than just doctors and nurses. For example, respiratory, physical and occupational therapists are in extremely high-demand.

The more South Carolinians understand about the wide variety of opportunities available to them the more likely we are as a state to close the workforce skills gap. However, education and building awareness among the general public are key to overcoming these perception challenges.

Examples from Other States

**Iowa and Manufacturing:** In 2013, Iowa started Elevate Advanced Manufacturing as a statewide initiative to promote careers and educational pathways in advanced manufacturing. I-AM (Iowa-Advanced Manufacturing) Consortium and IAB (Iowa Association of Business and Industry) along with the Iowa Community College System began working together on the campaign. Manufacturing contributes the largest share of gross domestic product within the state, yet there is a shortage of skilled advanced manufacturing workers.

The Elevate Campaign is comprised of a website — [www.elevateiowa.com](http://www.elevateiowa.com) — which includes video testimonials, assessments for career pathways, information on training opportunities at the fifteen Iowa community colleges and ways for businesses in the industry to get involved in the movement. It also includes educational opportunities and curriculum integration with K-12 students (tours, speakers, demonstrations); a statewide media campaign to include testimonials from industry employees and manufacturers; and statewide events such as booths at the state fair, Iowa Speedway and Girl Scouts of Iowa.

Events are a large part of the Elevate Iowa initiative. These events include such activities as Employer Lunch and Learns, Career and Job Fairs, Elevate Ambassador Program Training which readies current STEM employees to testify to students in their local areas). The initiative also has a big social media presence using Facebook, Twitter and YouTube.

**Massachusetts and STEM.** The State of Massachusetts started a program called DIGITS designed to raise awareness and interest in STEM careers as well as mathematics at the sixth-grade-level. “STEM Ambassadors” from various STEM-related careers are trained on what to do/say and then volunteer to visit classrooms during regular class time, lead discussions and share some of their work experiences. The Ambassadors are encouraged to share their journey to their current STEM position, aspects that are fun and
exciting about their jobs, their opportunities for progression and income and to address any negative stereotypes to their jobs. The classroom then works on an activity or project related to the Ambassadors’ jobs, and are encouraged to use mathematics skills. The program has been successful within Massachusetts, and survey evidence from the students showed improved perceptions of and interest in STEM-related subjects.

**North Carolina and Healthcare.** In Charlotte, the Heroes Healthcare Career Connection (H2C2) initiative was started with a *Teen Health Career Club*. The club which connects students to healthcare professionals, healthcare careers and health science enrichment.

Students must enroll and be accepted into the program (it has requirements and a registration fee). Once enrolled, the program takes place once a month for eight months in the evening for two hours.

There are two age brackets with separate program initiatives:

- **Middle school (Sixth through eighth grades):** explores body systems, healthcare speakers, basic medical terminology and a health career related field trip
- **High school (9th through 12th grades):** explores the many different branches of healthcare, health career speakers, health science activities and a health career related field trip

**South Carolina: Perception Challenges Identified in Study**

“Encourage [students] to consider manufacturing, because it’s a really advanced, high-tech career field that is really lucrative. It still has a stigma associated with it from maybe the textile industry, but it’s really advanced, really high-tech now, and really clean.” —Ryan Childers, BMW

“They think manufacturing is an assembly line from the 1940s and they have no idea the level of robotics and automation, and let’s say “cool factor” that we have in manufacturing.” —Lou Kennedy, Nephron Pharmaceuticals

“Manufacturing is not sexy, especially not for young people, but it should be.” —David Brown, MAU

“...We have got to invest in a plan to educate at an early age. Technology has changed the workforce in the last fifteen years...a lot of the manufacturing sites that used to be in our area in Pickens County and the upstate were all millwork. So people thought of cotton mills and denim mills and dirty, dark, dangerous places with a lot of safety hazards. Manufacturing today is changed so much from that, and we haven’t educated the parents on what options are out there for their children.” —Jeromy Arnett, United Tool & Mold, Inc.

“Manufacturing has changed tremendously over the years, it’s no longer that you just need a strong back. It’s more about we need to have folks who can think through several steps in a complex operation and problem-solving to keep a large piece of equipment that costs over a million dollars running successfully, efficiently and making high quality products.” —Fran Jones, Bridgestone

“I still think that there is a perception out there as to what manufacturing used to be. Consequently, when it comes to trying to provide students with career path options, I don’t think that they (guidance counselors) are really speaking from a position of knowledge. It’s what they think, or what they remember. I say spend
some time in some of these companies, to physically see what they do.” —Maceo Nance, Department of Commerce

“There is an image out there in this country, in the schools, with teachers and with parents that you don’t want your child to go into manufacturing. There is this perception that it’s this dirty, greasy, blue-collar type of job. That is not true. My factory floor is cleaner than your kitchen floor at home...There is no grease, there are no wrenches and there are no hammers. This is state-of-the-art, multimillion dollar equipment that people are operating with...It’s not a greasy, blue-collar job from the fifties.” —Warren Helm, Boeing

“This is how we’re going to take this country back, is to take manufacturing back. We spent 20 years outsourcing manufacturing from this country, and I think everybody recognizes that we want it back. So, we need to change the perception of our K-12 and get those kids focused on STEM...we need to get kids excited, get parents excited about STEM.” —Warren Helm, Boeing

“A recent poll from February 2015 said 52 percent of all teenagers said they have no interest in ever going into manufacturing. Their perception is that it’s dirty, it’s dangerous, it requires little or no skill, and there’s no career growth. That is absolutely opposite. That’s the image that we’re dealing with, and this poll was from a group of high school students across the United States. So this is real.” —Warren Helm, Boeing

Our Recommendations for Perception Challenges:

**Recommendation 1: Develop and implement an integrated communications plan to build awareness and educate audiences of the advantages of careers in manufacturing, information technology, healthcare and STEM-related fields as well as educational opportunities available.**

In order to build awareness and educate the public, a strategic communications plan must be developed and implemented. This communications plan should have persuasive messaging that will work to overcome significant perception issues around these fields and their educational pathways. The messaging must appeal to a broad range of audiences from students and young adults to guidance counselors and parents, among others.

In order to leverage state funds, a significant online presence will be the crux of the campaign supported by a proactive media relations strategy that makes the most of social, earned and paid marketing. In addition, community leaders should be leveraged as champions for the awareness initiative. Select collateral material will be printed to support the online presence along with fact sheets, education material and curriculum for use in the classroom. Complementary programs should be identified and developed that will help strengthen the initiative.

Building awareness and changing perceptions takes time. To this end, a sustained, fully integrated implementation plan of at least 3-5 years should be developed in order to make significant progress toward affecting change.

**Recommendation 2: Develop and implement strategies designed to demonstrate that manufacturing and other STEM-related fields, including healthcare are viable career options.**

One example strategy is a statewide day to promote manufacturing, information technology, healthcare and other STEM-related fields. For example, Georgia has Georgia STEM Day, which is sponsored by the TAG Education Collaborative, a 501c3 organization designed to increase awareness
of the importance of STEM education for the future economic well-being of Georgia. This initiative began in 2013 and is held annually May 8. Each year participating schools are encouraged to submit their celebration activities to TAG-Ed for a STEM Education Award. These awards were created to recognize and celebrate schools, extracurricular programs, public-private partnerships, science agencies and post-secondary education outreach programs for outstanding efforts and achievement in supporting and promoting science, technology, engineering and math education in Georgia.

Florida also has a similar initiative — October is Florida’s Manufacturing Month. As a result of this initiative, Florida ranks first in the nation for hosting manufacturing tours and events. In 2015, FLATE (Florida Advanced Technological Education Center) and a network of statewide partners worked together to organize 238 manufacturing events. The celebrations and tours during October each year have played a huge part in boosting the perception of manufacturing among students, females, minorities, parents and teachers across the state.

In addition, to a specific day/month designated to showcase these fields, we recommend age-specific and target-specific videos be developed to highlight the advantages of careers in the fields as well as organized field trips and career showcases across the state for students and parents. These field trips and career showcases should also be made available to the press as well as K-12 counselors and teachers.

**Recommendation 3: Develop ways to influence younger people, parents, teachers and guidance counselors.**

Working collaboratively the SC Technical College System and the SC Department of Education would develop a comprehensive orientation to academic programs for the manufacturing, information technology, healthcare and other STEM-related fields. This orientation would be available to students and parents as well as counselors and teachers. It would overview the post-secondary programs available in these fields as well as employment opportunities and potential career options. The orientation would also review the financial-aid process and provide information on available assistance. In addition, tours of local facilities would be incorporated along with panel discussions with successful employees/former students in these fields.
Recommendation 4: Engage in STEM and related initiatives early.

An essential part of changing perception is to engage awareness as early as elementary school. As such, a comprehensive strategy should be developed and implemented to engage students in younger grades, such as career days, job shadowing, field trips, competitions and camps.

FIRST (For Inspiration and Recognition of Science and Technology) provides an example of age appropriate competitions. FIRST is a national 501c3 organization that offers different leagues for students to participate in robotics competitions, and is available for all youth K-12. There is a LEGO League, Jr for K - grade 3, LEGO League for grades 4-8, Tech Challenge for grades 7-12 and a Robotics Competition for grades 9-12. Student response is positive. 80 percent responded that they had an increased understanding of the role of science and technology in everyday life. 86 percent indicated that they had an increased interest in science and technology. 69 percent showed an increased interest in a STEM-related career. 89 percent responded that they had an increased confidence in themselves, and 70 percent responded that they had an increased interest to do well in school.

Pipeline

Create a viable pipeline of qualified workers in manufacturing and other STEM-related fields to close the skills gap

South Carolina is facing staggering workforce demand. It stems from an ever-increasing call for high-skilled workers, an aging workforce fast approaching retirement and the considerable growth we have seen in the number of announcements for new and expanding business and industry in South Carolina. In order to ensure our state’s continued competitiveness this critical situation needs to be addressed quickly by ensuring South Carolina has a continuous pipeline of qualified, work-ready individuals for these in-demand jobs.

Successfully meeting the needs of business and industry in STEM and high-demand fields is critical to the state’s skills gap. Individuals need to be able to analyze data, apply math, use technology, think critically and solve problems. In addition, South Carolina employers report that nearly a quarter of their workforce will retire in the next 10 years. These vacancies coupled with unprecedented economic development growth has the potential to increase exponentially the need for a qualified pipeline of skilled workers. South Carolina continues to attract investment from around the world and adding new jobs to our state’s economy. South Carolina leads the Southeast in manufacturing job growth. Each new announcement brings with it the expectation of a highly-skilled, ready workforce.

The number of South Carolinians trained in a STEM or high-demand field will need to increase significantly creating a continuous pipeline spanning K-12 through technical colleges, colleges and universities.

South Carolina: Pipeline Challenges Identified in Study

“The biggest challenge we have is the issue of a pipeline of qualified operators. That’s why it’s really important to us that we’re successful in developing a program and a relationship with Aiken Tech to provide us a pipeline for these qualified operators.” —Carol Barry, Savannah River Nuclear Solutions

“Where in the world are we going to get enough skilled, trained people in the state to meet the commitments that our Commerce Department and our economic development teams in various parts across
the state have made to companies like Continental, Giti Tire, Volvo and Daimler. That’s the one [workforce challenge] that far exceeds any other challenges that I’ve seen.” —David Brown, MAU

“I know all the employers around here are going to tell you there’s not enough in the pipeline regardless of what industry they’re in, whether it’s technology or manufacturing. It is a real issue.” —Cathy Novinger, Palmetto Agribusiness Council

“Over the next decade, there is going to be 3.5 million manufacturing jobs that will need to be filled in the United States, but the data says there will be 2 million unfilled. We’ll only be able to fill 1.5 million of the 3.5. So what does that mean to the industry? What that means to the industry is they either go out of business or they source that work overseas if they can’t fill those jobs.” —Warren Helm, Boeing

“What keeps me up at night? Skilled, ready labor. When I post a job for what I call an advanced manufacturing position—a position that requires either a two year degree or a certificate program with a lot of experience—I’ll get a stack of resumes about twelve inches thick. When I take out all of the people that have four-year degrees and MBAs or that don’t meet the qualifications, I’m left with about ten applicants to choose from. That’s what keeps me awake at night. It’s all about the pipeline.” —Warren Helm, Boeing

“There are plenty of things like supply chain logistics and operations management...things that are in the business school other than a finance degree when there are not enough banking jobs to go around. So I think we could all do ourselves a service if we start earlier in a child’s education talking about what kind of jobs they can get when they’re older, and how can they sustain their family and make a living. That’s where I think we have an opportunity to help the future kids and leaders of the state.” —Lou Kennedy, Nephron Pharmaceuticals

“...In some way we need to begin from the eighth grade...to get them engaged on career possibilities and get them exposed to and excited about them, and say “hey, not everybody needs that four-year degree.” There are a lot of great, satisfying jobs. There are a lot of things that we can do with that will help lead them into very satisfying careers.” —Matt Yuan, Cox Industries

“...We need to create children who will walk away successful, who will have a career but also have the ability to continue learning. Every child learns differently. They just need to be exposed and given opportunities to be exposed to careers, different types of jobs, and then given the opportunity to attain them.” —Anita Zucker, The InterTech Group, Inc.

“...If the educators’ needs are not married to the needs of the business community, then we’re hoping to be lucky. I think that the days of being able to turn out students and feel good because they have a degree, or the certification that they wanted or desired or needed at that time, are long gone...Workforce development doesn’t end with graduation and placement of students. It really ends when a successful business community is competitive not only regionally but nationally and internationally.” —Brad Dean, Myrtle Beach Chamber

Our Recommendations for Pipeline Challenges:

Recommendation 1: Enhance successful components of the Education and Economic Development Act (EEDA).

Increase the number of guidance counselors. The original goal of EEDA was to increase the number of guidance counselors and career specialists to achieve a 300:1 student to guidance personnel ratio. The
national average is 477:1. School counselors provide counseling programs in three domains: academic, career and personal/social. Their services and programs help students resolve emotional, social, or behavioral problems and help them develop a clearer focus or sense of direction. Studies show that lowering the ratio of counselor to student has a significant impact on student achievement and success, including:

- Improved reading scores among elementary students
- Significantly fewer inappropriate behaviors and more positive attitudes toward school
- Improved social skills, including interpersonal, communication and problem-solving skills
- Enhanced career development
- Reduced victimization by assisting victimized children and reducing bullying behaviors
- Effective assistance for high school students with post-secondary education and training options
- Improved performance by underachieving and at-risk students and decreased dropout rates
- Improved school culture - more positive and greater feelings of belonging and safety in schools

At-risk student initiatives. The Education and Economic Development Act of 2005 (EEDA) requires that an evidence-based, at-risk student program be implemented in each high school in South Carolina. In past years, the SC Department of Education has awarded funds to districts through At-Risk Student Innovation Competitive Grants and At-Risk Student Supplemental Formula Grants. Districts that received EEDA funds were required to implement or sustain evidence-based programs designed to assist students at-risk of dropping out of school before graduation and/or not graduating on time.

In 2012, 61 schools representing 21 school districts received innovative grants to implement an evidence-based at-risk student intervention model and 52 schools representing 33 districts received supplemental grants to support existing evidence-based at-risk student initiatives. 26,936 students participating in these at-risk student programs and 98 percent of these students persisted to the following year or graduated. Since EEDAs inception, an average of approximately 29,000 students annually have participated in EEDA funded and/or endorsed at-risk student programs.
Career awareness programs as early as elementary school. Research has shown that elementary and middle school students benefit, both academically and vocationally, from career development programs that promote career exploration skills, as well as increase knowledge of career options and career paths. In elementary school, these career development programs generally focus on career awareness, presenting students with experiences to learn about careers, to visit career sites and to meet workers and professionals in a variety of settings. An essential component of the career awareness phase often taught in elementary schools is the development of self-awareness. In middle school, programs focus on the identification and articulation of interests and skills, as well as a clear understanding of career paths. Common benefits of early career awareness include a clear understanding of careers and information on careers, a better comprehension of self, interests and skills, enhanced developmental steps, the ability to make connections between career development and academics and an appreciation for integrated classroom learning. Career Development Facilitators should be put in place at each school.

High Schools That Work initiative. High Schools that Work (HSTW) is an effort-based school improvement initiative. It is founded on the conviction that most students can master rigorous academic and career/technical studies if school leaders and teachers create an environment that motivates students to make the effort to succeed. Run by the Southern Regional Education Board (SREB), the HSTW school improvement design provides a framework of goals, key practices and key conditions for accelerating learning and setting higher standards. There are two companion programs to HSTW: Making Middle Grades Work (MMGW) and Career and Technology Centers That Work (CTCTW).

In 2012, all but eight high schools had joined HSTW. Over half of the middle schools in South Carolina were participating in MMGW and 41 percent of SC’s Career and Technology Centers were participating.

Jobs for America’s Graduates-South Carolina (JAG-SC) is a dropout prevention program focused on academic success and career readiness skills. A dedicated career specialist in each of the affiliated schools functions as a teacher, coach, counselor and advocate for students with documented barriers to success. Over the course of their enrollment, students master 81 competencies identified by business as essential to successful employment. The program, launched in 2005, was originally piloted by the South Carolina State Workforce Investment Board and is now supported by the South Carolina Department of Employment and Workforce (DEW).

JAG-SC is in its eleventh year of service delivery at the original pilot schools. The program currently serves over 1,100 active high school participants. Students, on average, are enrolled with six documented barriers to success (e.g., teen parenting, excessive absenteeism, low-income household or substance abuse).

JAG-SC has launched 2,098 seniors since the Spring 2009 with an average 94.87 percent graduation rate. JAG-SC’s return-to-school rate has consistently been greater than 96 percent. JAG-SC experienced a 64 percent growth since its inception through public/private investments in new high school sites with plans to pursue further growth as funding opportunities become available. JAG-SC currently works with 25 school-affiliated sites.

Regional Education Centers. The twelve Regional Education Centers, managed by the Department of Commerce, have a full time Regional Workforce Advisor (RWA) and a local Advisory Board. Each
REC/RWA is responsible for coordinating, with state partners, educational and workforce services for lifelong learning including: career planning services, workplace learning opportunities for students, professional development for educators and career counseling and workforce education for adults.

*Leveraging existing centers of excellence in South Carolina.* Across the state, there are examples where districts have successfully put in place components of EEDA that are experiencing significant positive results. These centers of excellence must be identified and leveraged across the state.

**Recommendation 2: Increase dual enrollment offerings and participation.**

Dual enrollment was made possible in South Carolina by the 2005 Education and Economic Development Act. Dual enrollment applies to students who are enrolled in both high school and college.

There are many benefits to taking advantage of dual enrollment. The Community College Research Center’s recent study found that dual enrollment participation is positively related to a range of college outcomes, including college enrollment and persistence, greater credit accumulation and a higher college GPA.

The SC Technical College System provides 95 percent of the state’s dual enrollment programs. Overall, the System had 15,283 dual enrollments during the 2012-13 academic year. This number represents a 7 percent increase from 2011-12. The number of dual enrollment course sections offered by our colleges continues to rise. At the end of AY2012-13, the System offered 1066 course sections – 61 more than the previous year.

In considering increasing dual enrollment offerings and participation, accessibility and affordability must also be considered, including tuition assistance. For many students, one class is the feasible option for a variety of reasons, including home responsibilities, academic rigor, etc. These students do not qualify for assistance since they are part-time students and do not meet the minimum required number of credit hours.

**Recommendation 3: Enhance Career and Technology Education (CATE) Programs of Study offerings and participation.**

South Carolina’s Career and Technology Programs of Study provide leadership and services to districts and schools supporting grade-level, standards-based curricula through the integration of academic and career and technical instruction for students in grades seven through twelve. CATE prepares youth for fast-growing, high-paid jobs in high-growth industries - including healthcare, the skilled trades, STEM, information technology and marketing. CATE also provides students with the opportunity to participate in apprenticeship programs, work-based learning opportunities and compete at district, state and national levels through CATE student organizations.

Approximately 186,000 students were enrolled in at least one CTE course in 2012-13. Over 300 CTE courses were offered in secondary schools in 2012-13. The Placement Rate into post-secondary education, employment, or military service for CTE students who complete at least four courses in a state-approved CTE program was 96.5 percent. The Graduation Rate for CTE students who complete at least four courses in a state-approved CTE program was 95 percent. (As compared to the SC state average of 77.5 percent)
Recommendation 4: Focus initiative around prioritized clusters from sector strategy project.

Efforts to increase the pipeline of skilled, ready workers should be focused around the identified, prioritized clusters or sector strategies. Sector strategies — regional, industry-focused approaches to building a skilled workforce — are proving to be one of the most effective ways to align service providers to address the talent needs of employers. The objective of sector strategies is to align all partners, including economic development, education and workforce around the same goal of creating talent pipelines for critical growing industries. The result of productive industry partnerships is the creation of an ongoing talent pipeline that meets employer needs and creates family-sustaining careers that can be undertaken by South Carolinians. The prioritized clusters or statewide target sectors include:

1. Diversified Manufacturing  
   a. Metal and Metal Fabricating (including Vehicles)  
   b. Textiles  
   c. Lumber and Wood Products  
   d. Chemicals, Rubber and Plastics  
2. Business and Information Technology Services  
3. Healthcare  
4. Transportation, Logistics and Wholesale Trade  
5. Construction

Recommendation 5: Increase veteran outreach.

The majority of manufacturers report they cannot find people to fill their skilled jobs. Meanwhile, thousands of service men and women return home each month, possessing not only an exemplary work ethic, but also rigorous technical training and experience. Capitalizing on the expertise of this group is key in expanding South Carolina’s pipeline. Outreach to military operations statewide should be enhanced as well as increasing the use of a competency-based approach to matching military veterans’ skills with needed workforce skills.

For example, the state can build upon initiatives such as Operation Palmetto Employment (OPE). OPE is a statewide initiative launched by Governor Nikki Haley and supported by the SC National Guard and the SC Department of Employment and Workforce. This initiative works to streamline the employment process and leverage military expertise to reduce the unemployment rate among South Carolina’s military community.

Examples of other states reaching out successfully to veterans include Iowa and Kentucky.

Home Base Iowa. This initiative is part of the Home Base Iowa Act, which was signed into law in 2014. One of the objectives of the program is to match veterans with high-paying careers within the state of Iowa, as well as to make the job search process less burdensome and easier on veterans. The initial goal of the program is to hire 2500 veterans by December 18, 2018. Since its inception 600 have been placed. Approximately 125 of the 600 placed veterans received jobs within manufacturing field. Representatives from the manufacturing companies state that veterans make excellent employees and excel in STEM-related positions.

Where Opportunity Knox. Located in the Greater Louisville Region, this initiative was born in 2014 and strives to place transitioning veterans and their family members into sustainable careers. It celebrated
its first anniversary by connecting 1,500 veterans to employment opportunities throughout the region. The program’s goal is to place 10,000 veterans by the end of 2017. Conveniently located at Fort Knox, where the headquarters for the U.S. Army’s Transition Assistance Program (TAP) is located, 130,000 soldiers exit the Army annually, whether virtually or physically, from this location.

The initiative is not a job placement service, but is instead focused on developing a pipeline of transitioning veterans who are looking for a post-military place to live and work. The program has had success placing veterans in jobs in healthcare, information technology, manufacturing and production, as well as transportation and logistics.

**Recommendation 6: Increase outreach to priority populations.**

In order to grow and sustain South Carolina’s workforce pipeline outreach to priority populations such as minorities and women must be increased. These enhanced efforts must also work to attract individuals with disabilities, youth, ex-offenders, veterans and low-income individuals. Faith- and community-based outreach are important to reaching these priority populations. In addition, continuing such programs as Learn2Earn and CodeIT Academy and expanding similar offerings would work to increase the state’s pipeline of skilled, work-ready individuals.

**Learn2Earn.** A federally funded grant, Learn2Earn helps jobseekers in seven rural South Carolina counties – Allendale, Bamberg, Barnwell, Clarendon, Edgefield, Hampton and Orangeburg – to get the basic skills needed for entry-level jobs in the healthcare, advanced manufacturing, transportation and distribution and logistics industries. Participants earn credentials needed such as a GED or a National Career Readiness Certificate. In addition, participants learn crucial soft skills needed for the workplace.

**Code information technology Academy.** In 2015, the SC Technical College System launched CodeIT Academy. Coordinated by the Academic and Student Affairs Division, the CodeIT Academy aims to increase abiliTY, acuITy and audacITy among female students enrolled in Information Technology (Information technology) programs. Ten students from across the state were selected to participate in a twelve-week pilot program, funded by grants from Microsoft Research, the National Center for Women in Computing and the SC Department of Education. The initiative was also supported through partnerships with SCETV, IT-Ology, BlueCross BlueShield of South Carolina, SCANA, USC and Clemson University. Efforts for the coming year will focus on tracking performance of the initial cohort and scaling the project to include more participants.

Examples of other states effectively reaching out to priority populations include California’s efforts to increase the number of minorities and women in computer science programs and careers nationwide.

Harvey Mudd College, the University of California at Los Angeles and the Anita Borg Institute’s BRAID Program (Building Recruiting and Inclusion for Diversity) started an initiative to work with computer science departments at fifteen universities across the United States to increase the percentage of women and minority graduates. The initiative is funded by Facebook, Google, Intel and Microsoft. It leverages the success of Harvey Mudd College’s program where the college successfully:

- Expanded outreach to high school students and teachers
- Revised introductory CS courses to make them more appealing and less intimidating to students from underrepresented groups
- Built a sense of community among underrepresented students
• Developed joint majors with CS and biology, among other areas
• Participated in the Grace Hopper Celebration of Women in Computing and Tapia Conferences

**Recommendation 7: Encourage greater apprenticeship participation.**

Established in 2007, the Apprenticeship Carolina program, housed in the SC Technical College System, works to increase awareness and use of registered apprenticeships in the state. The growth has been phenomenal. Since 2007, the number of programs has increased eightfold from 90 to 773. The number of apprentices is nearly 14,100 from a mere 777 in 2007.

Each month, the program adds approximately 120 new apprentices and registers one or more programs per week. Many think of traditional trades such as construction, electrician and plumber as the ideal occupations for apprenticeship. Apprenticeship Carolina has broadened that scope to include nontraditional industry sectors like healthcare, information technology, tourism and advanced manufacturing.

Due to Apprenticeship Carolina’s innovative approach to expansion of programs, South Carolina leads the nation in growth and diversity of apprentices. For instance, South Carolina boasts a higher number of female and minority apprentices than the national average — 29 percent of the state’s apprentices are female compared to 5.6 percent nationally, and 44 percent of the state’s active apprentices are minority compared to 35 percent nationally.

However, there is still room for growth. Business and industry across the state should be encouraged to use registered apprenticeship as a workforce development tool designed to build their talent pipeline.

In addition, youth apprenticeship is a forward-focused component of Apprenticeship Carolina that is growing in popularity. Youth apprenticeships in South Carolina have contributed to the state’s growth over the past two years.

Businesses see the benefits of selecting high school juniors and seniors to become youth apprentices in order to build the foundation for their workforce pipelines. An Apprenticeship Carolina youth consultant coordinates cooperation between school districts and business leaders to register programs.

Over the last two years, the number of companies who have registered youth programs in South Carolina has grown to 91. Youth programs now exist in 24 of South Carolina’s 46 counties. The youth programs are designed to ensure the experience and education of a high school student can transfer seamlessly into an adult program upon graduation. In some instances, the students graduate with: a high school diploma, a nationally-recognized DOL credential and credit hours toward education at a local technical college and/or certificates of study. This valuable tool should be leveraged across the state through increased business and industry outreach.

**Youth Apprenticeship Signing Day Event Success Story.** Trident Technical College (TTC) provides the perfect example of making youth apprenticeship work for local business and industry. From culinary and hospitality to manufacturing and information technology, approximately 40 area companies from these sectors joined forces with Trident and the local chamber of commerce to offer positions to area high school students. Nearly 80 juniors and seniors took advantage of the opportunity.
Walter Newman was part of the inaugural group of high school students. Walter knew he wanted to go to college, but had no idea what he would study. “I couldn’t see wasting all that time and money studying something that I may never use,” said Newman. But last year when Newman was a junior at Fort Dorchester High School, his guidance counselor told him about the new manufacturing youth apprenticeship program at TTC.

This year, Newman has been “earning while learning” through his part-time work at the VTL Group, which designs, develops and manufactures precision engineered components. He is also attending high school and taking classes at TTC. When he completes the program this year, not only will he earn his high school diploma, but he will also have a certificate in Industrial Mechanics that will count toward an associate degree, a national Journeyman credential from the United States Department of Labor and two years of work experience.

State Workforce Development Board (SWDB) Apprenticeship Grant. To align with national and state visions for workforce activities, South Carolina’s Workforce Development Board (SWDB) has placed a higher emphasis on the development of apprenticeship opportunities and set aside $200,000 for an apprenticeship grant initiative.

Grant funds will be awarded to applicants whose proposals demonstrate an innovative apprenticeship model that will serve one or more of the following priority populations: long-term unemployed, veterans, individuals with disabilities, ex-offenders and youth with barriers to employment. Barriers may include the following: pregnant and parenting, youth with disabilities, basic skills deficient, secondary school dropout, homeless, or are in foster-care or aging out.

Recommendation 8: Increase short-term credentialed training for in-demand fields.

One of the keys to building South Carolina’s critical workforce lies in quick training and education programs geared toward high-demand fields. These short-term credentialed training includes any class or program that lasts 16 weeks or less that leads to a certificate or credential in a high-demand, critical field. All short-term training can help individuals find a job, get a promotion or earn more money. In addition, this concept provides for stackable credentialing in high-demand fields that will lead to enhanced employability.

The State Workforce Development Board (formerly the State Workforce Investment Board) has been analyzing the benefits of training participants as well as a reasonable expectation regarding a percentage of allocated funds to be used for training services.

Annual analysis of cumulative accrued expenditures of Adult, Dislocated Worker and any Rapid Response Additional Assistance funds track three major categories of program cost:

- Training and related expenses (includes: tuition, books, supplies, assessments, supportive services, OJT and work experience)
- Staff working directly with participants (includes salaries, fringe and indirect costs for the time staff spend working directly with participants)
- Other staff and operating costs (includes salaries, fringe, operating and indirect costs for staff time not spent working directly with participants)
For PY2014, the State Workforce Development Board approved an Incentive Policy that included awarding incentive funds to areas that expended 35 percent of Adult, Dislocated Worker and Rapid Response for Additional Assistance program funds on participant training and related expenses. The State Workforce Development Board will use expenditure data to guide policy decisions that direct expenditure of funds and align with the emphasis on credential attainment and skill certification.

There are a number of federally and state funded training programs which provide opportunities for jobseekers and employers. The State Workforce Development Board has allocated $1,491,235.00 for Incumbent Worker Training (IWT) and a new innovative program called EvolveSC.

The SWDB allocated $750,000 toward IWT for Program Year 2016, resulting in the approval of 87 IWT requests for training existing employees with business and industry partners.

Additionally, the SWDB allocated $741,230 for EvolveSC. EvolveSC provides training opportunities to employers who want to train their existing workforce and new employees in programs that lead to an industry-recognized credential. The South Carolina Department of Employment and Workforce in collaboration with the SC Technical College System worked together to implement this program, resulting in the receipt of 35 applications totaling 77 training programs. After review of the EvolveSC applications 25 employers seeking 52 training programs, training 747 employees were approved totaling $584,986.98. The remaining funds will be awarded in Spring 2016.

**Recommendation 9: Explore ways to integrate soft skills, interpersonal skills and critical-thinking practice in all education and training.**

Workplace soft skills are associated with an employee’s personality and work ethic. They are hard to quantify but just as critical as an employee’s technical or hard skills. According to a recent Career Builder Survey, the top five most popular soft skills employers are looking for when hiring are:

1) Strong work ethic (73 percent)
2) Dependability (73 percent)
3) Positive attitude (72 percent)
4) Self-motivated (66 percent)
5) Team-oriented (60 percent)

South Carolina employers are also looking for qualified workers that have an important balance of both hard and soft skills sets.

“*I think is tough is getting employees, both current and new employees, engaged in the workforce and engaged in their jobs, taking accountability and taking ownership of their actions and what they do.***”

—Lawrence Kraemer, Walgreens

“*The number one thing that keeps me awake is proper communication, and I discuss this with every CEO and industry leader I meet. We are very hard-pressed in today’s society to find a good communicator, and someone who can write complete sentences, proof, punctuate them, edit them, and send something in a professional manner out from our company to others.”** —Lou Kennedy, Nephron Pharmaceuticals
“The second [workforce challenge] would probably be soft skills, somebody that is dependable to report to work, meshes well within the organization’s culture and from a work ethics standpoint.” —Matt Yuan, Cox Industries

“When I talk about soft skills it’s communications that we face number one. Number two is...we’re lucky if they show up on time or they show up at all...people expect things to be handed to them and not work for them.” —Jeromy Arnett, United Tool & Mold, Inc.

“We need to focus on making sure people have technical skills but also that they understand workforce readiness. What I mean by that is really three things: the ability to show up for work, the ability to work at a pace that is adequate inside of a manufacturing work environment and then having a positive attitude. Those are really the top three things that we look for, because we train people how to do the job, we just need people who are going to show up, work while they’re here, and get along well with others. Those are the three main things.” —Fran Jones, Bridgestone

“We have an issue with getting them (employees) to work a 40-hour work week. It doesn’t seem like it would be an issue, but it is a major issue.” —Clifton Parker, G&P Trucking

Other states are working to address the deficit in soft skills, including Indiana.

Indiana’s Work Ethic Certification. The Work Ethic Certification Program’s criteria for students include 97 percent attendance rate; punctual completion of classroom assignments; strong personal-time management and flexibility; a demonstration of the respect for rights of others; the ability to work cooperatively with others; and at least 12 hours of community service. Students who choose to participate in the program are required to have parental consent and the support of at least three teachers who agree to rate the student’s organization, punctuality, respectfulness and teamwork.

Based upon their performance, students earn up to 47 points toward the certification. A gold-level certificate is awarded to students who achieve 41 to 47 points. A silver-level certificate is awarded to students who earn 36 to 40 points. The model also includes an interview component near the end of the second semester of the school year. The interview session is intended to help round-out the student’s experience with the program as it provides both experience with interviewing skills along with the ability to demonstrate the student’s knowledge gained in areas such as teamwork and communication skills. Upon successful completion, the student receives a Work Ethic Certificate along with their high school diploma. Initial feedback from employers has been high.

There are many examples across South Carolina of teachers, schools, school districts and post-secondary institutions as well as other partners incorporating soft skills into daily curriculum. Successful initiatives need to be identified and leveraged across the state.

Recommendation 10: Encourage expanded recruitment strategies for business and industry that shifts screening systems from specific skills to competency-based.

In order to fully expand the workforce pipeline in South Carolina, an all-inclusive assessment of current recruitment strategies is necessary, specifically looking at job requirements. A recent study by the Society of Human Resource Management found that switching to from a credentialed-based approach to a competency-based approach led to larger candidate pools and a lower turnover rate. This approach allows employers to move past the typical degrees and experience to gauge a candidate’s true capability. It allows the candidate to draw on anecdotes from past positions and experiences to demonstrate their ability to perform the required task.
Partnerships

Build upon existing collaboration and create new partnerships to ensure educational offerings and curriculum are industry-driven.

According to Training Magazine, solving the skills gap is like solving a puzzle – not only do you have to make the pieces fit; you have to make sure you have all the necessary pieces from the onset. Partnerships and collaboration are critical to ensuring South Carolina has the right pieces for the puzzle.

One crucial partnership is between business and education. Businesses rely on education providers K-16 as well as it employment partners to provide a skilled workforce. Education in turn relies on business and industry to provide input as to the skills needed for effective, productive employees. The relationship is symbiotic and communication is critical.

These partnerships will help to align the skills needs of business and industry within the targeted sectors with the full range of K-12, adult education and post-secondary education assets. Partnerships will also provide an opportunity to explore “stackable” industry-recognized credentialing along with other competency-based recruiting strategies to expand the talent pipeline. Business-education partnerships assist in making work a central context for learning and help accelerate educational and career advancement.

In 2015, Governor Haley signed a State Partner Memorandum of Agreement to assist South Carolina’s state and local workforce development partners with effective coordination and collaboration of programs, services and governance structures. The partners of the MOU are cooperatively planning, creating opportunities and working together at the state and local level to drive a system that initiates employment and re-employment activities efficiently and effectively.

South Carolina would benefit from building on existing collaboration between agencies such as the statewide MOU as well as existing partnerships between agencies and business and industry. In addition, new partnerships and collaborations should be explored to ensure educational offerings, curriculum and recruiting efforts are industry-driven and closely aligned. Effective partnerships will help strengthen South Carolina’s pipeline of skilled, work-ready talent.

Examples from Other States

Many states have placed an emphasis on partnerships and collaboration. For example, Maryland and Washington created Business-Education Councils. Oregon and Texas created business coalitions ahead of legislation. In these states, the initiatives were led by the corporate sector and used to make recommendations for change. While in other states, policymakers have considered the potential of advertising as an additional revenue source for education. For example, Arizona, Colorado, New Jersey, New Mexico, Tennessee, Texas and Utah allow school bus advertising.

Our Recommendations for Partnership Challenges:

**Recommendation 1: Form a coordinating council built upon the EEDA concept.**

The purpose of this council would be to serve as the coordinating body for the State of South Carolina in its implementation of its workforce skills gap recommendations.
The membership of the group would be comprised of the following:

- Department of Education (state, district, principal, teacher and guidance counselor representation)
- State Board for Technical and Comprehensive Education (state and college representation)
- Department of Commerce (state and regional education center representation)
- Department of Employment and Workforce (state and local representation)
- Commission on Higher Education (state and college/university representation)
- Business and Industry representation (cluster representation)
- General Assembly representation
- Local county/city representation

**Recommendation 2: Work proactively to develop public-private partnerships designed to incentivize desired outcomes.**

It is necessary at times to subsidize activities and projects with support from external sources. There are a number of funding sources for educational and youth-related activities. These external sources should be proactively sought in order to achieve the desired outcomes.

The South Carolina Future Makers is a public/private partnership designed to aggressively market manufacturing job opportunities to high school students. Utilizing an online platform (developed by a South Carolina company, STEM Premier) students have access to information about manufacturing companies, job opportunities/salary ranges and requirements (certifications, degrees, etc.), and also have access to college information and support. The student profiles created in the system encourage “recruiting” by companies and colleges.

Two examples of public-private partnerships from other states include Connecticut and Georgia.

*The Connecticut Health and Sciences Career Initiative (HL-SCI Initiative).* Five Connecticut community colleges, a state university, an online college and numerous industry representatives worked together to win a $12 million grant from the USDOL. The grant focuses on providing certifications, industry-recognized credentials and associates degrees to veterans, displaced workers, underemployed workers and students interested in healthcare careers. It is designed to use curriculum innovation efforts to increase the use of online and technology-enabled learning. It also expands recruiting, interning and placement services for the participants. As a result of the grant, Connecticut developed fifteen new certificates and degrees related to the health industry and relevant career pathways for people in the state.
Go Build Georgia. A Georgia foundation that serves as the public/private partnership between business and the Georgia Department of Economic Development’s Workforce division, Go Build Georgia is an educational campaign that uses television, print, online and social media to promote careers in skilled trades. The end goal is to educate students and the workforce at-large about the program and drive them to the website where they can learn about opportunities in the skilled trades.

**Recommendation 3: Conduct periodic surveys of key stakeholders across the state regarding the value of existing and proposed strategies to promote ownership of the plan and gain insight into effectiveness.**

Continuous improvement must be a component of any plan. It is important to assess the value of initiatives to key stakeholders. By periodically surveying business and industry leaders across the state regarding the value of existing and proposed strategies, we can promote ownership of the initiative and gain insight into its effectiveness as well as make necessary adjustments to ensure its sustained success.

**Conclusion**

South Carolina continues to attract investment from around the world and add new jobs to our state’s economy. In fact, the state leads the Southeast in manufacturing job growth. It also surpasses the nation in tire manufacturing and exports. South Carolina has three automotive OEMs — BMW, Volvo Cars and Mercedes-Benz Vans along with a wide array of suppliers in the industry. The aerospace cluster continues to grow with Boeing and other companies in the industry. Composite material manufacturing is also on an upward trend with the addition of Toray.

Manufacturing is definitely on the rise. Even so, our growth as a state goes beyond just this valuable industry. Information technology, healthcare and logistics are also growing at exponential rates.

This is all great news for South Carolina and its citizens.

But, it also presents its challenges. This growth brings with it the ever-increasing demand for highly-skilled, ready workers. These are good jobs for South Carolinians – jobs that provide good wages, competitive benefits and secure career future.

The majority of these jobs require more than a high school diploma and less than a four-year degree. In essence, employers are looking for post-secondary certificates, credentials and, in some cases, a degree.

South Carolina must build a sustainable pipeline of qualified, work-ready talent to fill these in-demand jobs.

Fortunately, South Carolina is perfectly poised to address the challenges effectively and swiftly.

One key reason is the existence of the Education and Economic Development Act of 2005 (EEDA). The forethought of our policymakers to put this act in place in 2005 allows our state to move exponentially faster today with addressing workforce concerns.

Many components of EEDA address the latest workforce issues facing our state. Unfortunately, the program saw many cuts associated with the Great Recession and was not able to achieve all the goals as originally set forth by the act. However, the framework is in place and codified. By redirecting funding back the program, the state can move quickly to address talent pipeline issues.
Giving EEDA the funding it needs to reinvigorate its original intention coupled with proactively growing existing programs like dual enrollment, apprenticeship and short-term credentialed stackable training as well as adding new focused initiatives will help South Carolina successfully meet its workforce challenges.

Meeting these challenges will ensure a bright, productive future for South Carolina and its citizens.