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## Building the Workforce of the Future through Partnerships

Siemens, THINC Academy and KIA



Students at THINC College and Career Academy in rural Georgia aren't just learning reading, writing and arithmetic. They're learning advanced mechatronics, which puts them on the fast track to high-paying jobs, thanks to a unique public-private partnership aimed at building the workforce of the future.

Kia Motors, which is spearheading the effort, and automation technology leader Siemens, which is providing state-of-the-art equipment, training and educational resources through its Siemens Cooperates with Education (SCE) program, are teaming up with THINC to train students in mechatronics, which combines electrical, mechanical and computerized technologies.

For Kia, which has a sprawling 650-acre manufacturing facility in Troup County, the objective is to make sure there is a steady flow of young workers skilled in the latest technology to replace employees lost to attrition and retirement. And for Siemens, the goal is to train the next generation of mechatronics workers who can take their skills and certifications and find a job anywhere in the world.

Stuart C. Countess, chief administrative officer at Kia Motors Manufacturing Georgia (KMMG), explained that back in 2007 when Kia first announced plans to hire 2,500 people to work at the \$1.1 billion plant, it received more than 125,000 applications.

Finding available workers wasn't the problem. At that time, Kia took people with essentially no previous knowledge of car manufacturing and trained them into a world-class workforce that produces the Optima and Sorrento, vehicles that are winning awards for quality. "We gave them the challenge, the tools and the training and they are clearly able to execute," Countess said.

But looking to the future, Countess realized that technology is advancing so rapidly that "we can't sit on the sidelines and let the education side deliver what we need." He said Kia needed to become a true partner with the educational system, to have input into the curriculum and to get involved in a hands-on way in order to help shape the workforce of the future.

The current generation of students learns in a different way than their predecessors, said Gail Norris, Siemens U.S Lead, SITRAIN – Digital Industry Academy. The THINC Academy approach is to deliver an educational experience that is hands-on, experiential, sustainable, proactive and long-term, she added.

In 2011, in cooperation with state officials, the Troup County Center for Strategic Planning formed a Workforce Development Committee to study the need for workforce training. That same year, Kia committed \$3 million to help establish a college and career academy.

The process relied heavily on community involvement. At a Town Hall meeting in 2013, 108 community members and business leaders signed on as volunteers and were split into seven steering committees.

The local LaGrange Board of Education voted unanimously to support the effort and a consultant was hired to guide the application for a charter school program through the planning and approval process, which included educational visits to six college and career academies plus a detailed needs assessment study. In 2013, the charter school application was approved, and the state stepped up with a \$3 million grant for construction of the new THINC College and Career Academy.

### Siemens takes a lead role

Siemens automation equipment is deployed at the Kia plant throughout the stamping and final assembly operations and Siemens fully supports the KMMG workforce development initiatives. Siemens donated more than \$100,000 worth of equipment to THINC Academy for use in the mechatronics lab, including 24 programmable logic controllers and 24 software licenses. According to Amanda Beaton, U.S. Program Manager for Siemens Cooperates with Education (SCE), discussions began in the spring of 2016 and the equipment was installed that same summer.

But merely providing equipment only represents a fraction of Siemens involvement. It all starts with the instructors, who took a two-week certification course in Siemens Mechatronic-Systems Certification Program. Then it took a year to get the curriculum ironed out, says Norris. Today, students are earning



Raj Batra, President of Siemens Digital Industries US, visits with mechatronics students at THINC Academy.

their mechatronics certification, which requires classes in how to manage and troubleshoot the systems, followed by a certification exam.

Norris sits on the THINC advisory board and has been heavily involved developing a classification of digital skill sets that are needed in the manufacturing world. She says the latest skill sets that Siemens customers have identified are cybersecurity and data analytics.

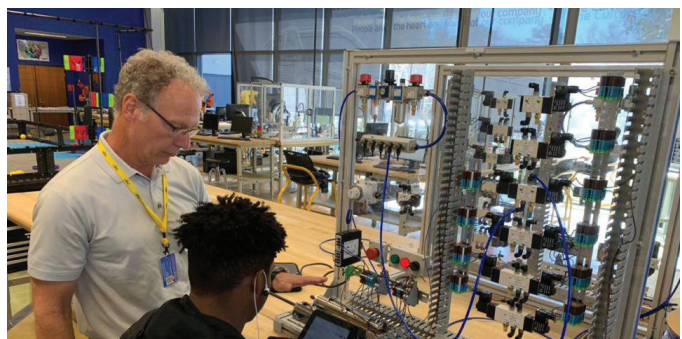
Siemens involvement in this endeavor is part of its global SCE program, which delivers comprehensive support for educators and students on the way to Industry 4.0. SCE offers teaching materials, and trainer packages for blended learning environments on topics like PLC programming.

"As a steward of training the next generation of manufacturing employees, we need to make experiential learning a greater focus of our education," adds Raj Batra, president of the Siemens Digital Industries Division in the US. "This is where our partnership with KMMG and THINC is a natural fit."

### THINC different

THINC College and Career Academy operates on the campus of West Georgia Technical College, with an enrollment of 400 students in grades 9-12. In addition to mechatronics, the courses of study include engineering, healthcare, business, marketing, energy studies and game design, according to Dr. Katherine Carlisle, CEO of the Academy.

THINC is different than traditional high schools in a number of important ways. For example, students may take both high school and college courses. In other words, students can take a high school course at THINC Academy, then walk across the hall and take a college course at West Georgia Technical College.



Students get guidance and hands-on experience at THINC Academy.



KMMG has added 6,000 jobs in Troup County in the last five years.

The strong connection to the business community starts on the first day of school when business leaders line up to greet students as they get off the bus. That connection continues throughout as business leaders and employers are active participants at the school. In fact, the school's Governance Board includes 15 business leaders.

#### Unique aspects of THINC Academy:

- 30% of a student's grade is based on soft skills, which include teamwork, initiative, problem solving, communication, cooperation, respect, appearance, attitude, attention to detail and adaptability.
- Students do seven-minute mock interviews with employers to get an idea of what the job interview process is like. Every year, as many as 60 volunteers conduct 1,200 interviews.
- Students are required to do hands-on projects each semester, which provides a connection between classroom work and local employers, who provide ideas and serve as advisers and judges. Each project is aimed at solving a real-world problem. Students present their projects in front of the judges, who offer feedback. After their projects are critiqued by the judges, students are required to go back and improve their projects, and then do another presentation.
- Even teachers get in on the act. Teachers may spend a week with Kia and other businesses to get out of the classroom and get a feel for the atmosphere in the corporate world and the soft skills required to succeed. According to Carlisle, teachers gain valuable insights during these visits which they incorporate into their own classroom work.
- Employers are on campus virtually every day, interacting with students, teachers and administrators, providing valuable feedback on what's going right and what can be improved.
- THINC is also working with employers to consider hiring 17-year-olds for part-time or summer jobs. Employers are understandably reluctant to allow people under the age of 18 on the factory floor. But THINC is working on the liability insurance concerns and other issues in order to get employers to hire students under 18 to work onsite in other capacities, like logistics or HR. Opportunities like these provide valuable experience into how the business world operates.
- There are also career fairs and frequent guest speakers from the business community.

The results have been impressive, according to Carlisle. Ninety-eight percent of seniors are on track to graduate; after three years in operation, 90% of students who initially enrolled are still attending and there's an overall 93% retention rate. That compares favorably with other schools in LaGrange, where 30% of high school students drop out before graduation.

Some other interesting metrics: attendance is 97% and the disciplinary rate is only 2%, compared with 6.8% in the rest of the district. If a student commits a disciplinary violation, they don't get sent to in-school suspension, they get sent home, just like they would if they were on a real job site.

One third of students are planning to attend college full-time, another third will be taking jobs at local employers like Kia. And another third are planning to do both; go to school and work.

In addition, an all-female mechatronics team from the school competed successfully in a recent Skills USA competition.

Carlisle points out how important it is for children in this relatively poor part of the country to graduate from high school with marketable skills. By 2020, 61% of all jobs will require a college degree or certification, but only 34% of adults in the county have an associate's degree or higher. And the poverty rate in LaGrange is 23%, says Carlisle.

The good news is that Kia has sparked something of an economic rebound, with Troup County adding 6,000 jobs in the last five years. Other companies are expanding their facilities. Great Wolf Lodge just opened a 456-room hotel with a 100,000-square-foot indoor water park that created 600 new jobs. And a large film company last year announced a \$120 million expansion of its facility that makes specialty polyester film.

Kia ultimately increased the overall demand for skilled workers in Troup County through its community development, which ironically means Kia now has more competition when it comes to hiring young talent.

However, Kia, Siemens and THINC Academy are part of a broader effort to build a sustainable workforce pipeline that will help individual companies like Kia and the region as a whole. Nearly 80 employers are now part of this pipeline initiative.

And the close working relationship between Kia and THINC Academy is already paying dividends. For example, Countess says there's a dire need for qualified maintenance engineers, but the general perception is that maintenance is "dirty, nasty work." That may have been true in the past in some industries, but at a modern manufacturing facility like Kia's, maintenance engineering is a viable career with strong growth and earnings potential.

That message has been delivered and 19 students at THINC Academy are currently participating in a certification program for industrial maintenance.

The success of the mechatronics program benefits all of the parties involved; the students get trained for well-paying jobs in a growing industry, Kia builds a pipeline to fill job openings at its manufacturing plant, and Siemens fulfills its mission to help create a workforce ready to meet the challenges of the future.

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Siemens Industry Inc.  
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