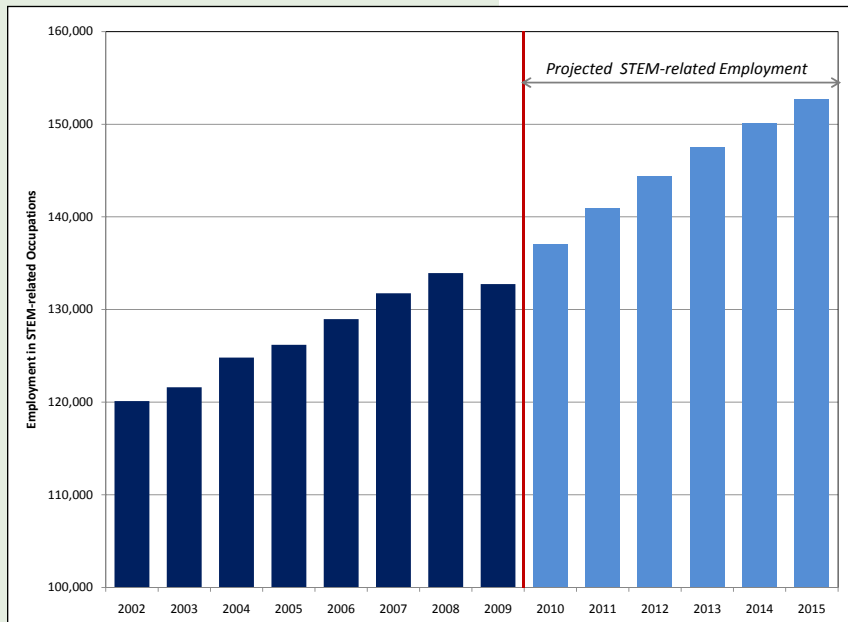


SPRING/SUMMER 2010

## Follow-up work related to SEVA-PORT should focus on STEM opportunities

*As the table below shows, local demand for skilled STEM workers is expected to grow rapidly in coming years. If we want innovative companies to move here, stay here or get started here, we'll need to ensure they can attract and retain talent.*

As the SEVA-PORT WIRED project winds down, the project team is looking to how its various partners can continue to push the innovation agenda in Southeast Virginia. One important take-away from WIRED is that the region's future prosperity and success will depend heavily on how well we do in terms of encouraging local residents to develop science, technology, engineering and mathematics (STEM)-related skills and talents.



As the table shows, local demand for skilled STEM workers is expected to grow rapidly in coming years. If we want innovative companies to move here, stay here or get started here, we'll need to ensure they can attract and retain talent.

The WIRED project focused many of its investments on helping local educators and training providers develop new programs that introduce STEM careers and skills to residents from kindergarten all the way to adulthood. Some strong foundational programs are in place, but they are not enough.

To get a better sense of how to move ahead, SEVA-PORT has contracted with EntreWorks Consulting, a national leader in innovation-based economic development efforts, to create a regional innovation index that assesses how the region is performing and what it needs to do to become a national and global center of innovation and entrepreneurship.

The index contains a lot of good news. Student performance in science and math (from K-12 and higher education) is steadily improving, key business clusters in modeling and simulation and logistics

## ATC partners with high school to develop a virtual business

Virginia Beach Public School's Advanced Technology Center's Modeling and Simulation class, and the advanced marketing entrepreneurship class from Landstown High School in Virginia Beach, are collaborating in a Junior Achievement High School Program Project funded by SEVA-PORT.

The classes have formed a company called New Venture. They have elected corporate officers and are in the process of developing a virtual CO2 scrubber street light device which utilizes CO2 to develop bio fuels. Throughout this program, students learn what it takes to run their own business, including how to develop a business plan. ●

continue to show rapid growth, and regional high-technology employment also is expanding.

However, the region still lags statewide and national benchmarks in many of these areas, so continuous improvement is still required. In addition, the region can and should do a better job of nurturing entrepreneurial start-ups and other technology-based businesses. The concentration and importance of these firms in our regional economy still lags state and national benchmarks.

The index is not designed to be a report card. Instead, it seeks to point to future directions for regional economic and workforce development. It suggests several new directions for any follow-up work related to SEVA-PORT. These include:

- Expand STEM education programs, especially those that target women and minority students who are still underrepresented in STEM careers.
- Improve programs that support entrepreneurs. It's still too hard for local residents to find and access support programs for new businesses. Better coordination and marketing is needed.
- Build new programs for business clusters. The region is home to several clusters that are national leaders in terms of innovation. The region should invest in efforts, such as the proposed Virginia Logistics Research Center, that capitalize on these strengths.
- Maintain regional momentum. Perhaps the most important recommendation concerns regional partnerships. SEVA-PORT showed that regionalism works. These partnerships must continue even after the federal grant dollars disappear. ●

## SEVA-PORT internships make a difference on the Peninsula

A collaborative project between Heritage High Schools' Engineering and Technology Magnet Program, the city of Newport News Waterworks and SEVA-PORT involved nearly 20 teenage interns who learned about the logistics of moving water throughout a city. The Peninsula Council for Workforce Development assisted in recruiting for and coordinating the program.

According to Dewey Ray, an engineering and technology program administrator at Heritage High School in Newport News, 19 Heritage High School students examined logistical data from specific culverts in Newport News and York County, many of which are more than 50 years old and need to be updated. With oversight from the employer, students used ArcView software to analyze data provided by the city of Newport News, one of the largest single employers on the Peninsula.

"Students used this data to model the culvert infrastructure and analytically determine which culverts need to be updated and changed," Ray says. "Not only did the students identify which culverts needed to be changed but they also determined the appropriate size of the culverts that needed to be installed."

Students spent time in the field from January until May collecting data points and observing the culverts. They presented their results of the project to select officials with the city of Newport News, Newport News Waterworks and Newport News Public Schools.

The purpose of the program was to introduce students to skills and careers in science, technology, engineering and mathematics (STEM) through hands-on internships. Students learned about the analytical skills needed within the STEM and modeling and simulation industries, as well as the logistics of moving items from point a to point b. "In this case," Ray says, "they learned about the movement of water throughout the city."

Student received a minimum of 40 hours of paid internship experience through the program, which concluded May 7. ●



Students from Heritage High School's magnet program gather logistical data from culverts in Newport News and York County to determine which ones need to be updated and changed. The SEVA-PORT-funded project involved 19 teenage interns.

Tim Johnson, a warehouse and distribution operations career studies certificate student, operates a forklift. (Photos courtesy of Nicholas Langhorne, The Tidewater News.)



## New PDCCC certificate program to help warehouse, distribution influx

Everyone knows the adage "location, location, location" pertains to a desirable real estate deal but the same can be said about warehouse and distribution facilities and a local community college conveniently located near the Port of Virginia.

With the Panama Canal expansion project on target to be completed in 2014, the demand for warehouse and distribution facilities in Hampton Roads is expected to increase by leaps and bounds. The Paul D. Camp Community College campus in Franklin is doing its part to prepare students for entry-level positions to meet this anticipated influx.

Thanks in part to support from the WIRED grant and SEVA-PORT, PDCCC kicked off a new warehouse and distribution operations program in January. The nine-credit-hour certificate program involves both classroom and hands-on instruction focusing on operations, equipment, procedures and safety training. Five students enrolled in the program.

Opportunity Inc. facilitated the enrollment process with specific outreach to workers impacted by International Paper's closure in Franklin. The program is also being supported by several area businesses, including Target, QVC, Center Point, Computerized Inventory Systems Specialists Ltd., Cost Plus World Market, MSC Supply, Material Handling Industry of America, Safco Products Co., International Paper Co. and Smithfield Foods. In addition to monetary support, the companies have donated equipment, materials and labor.

The three required classes for certification — Introduction to Business, Team Concepts and Problem Solving, and Studies in Warehouse and Distribution Operation — will be offered every semester. PDCCC also plans to develop an advanced warehousing course late next year to address the skills needed by supervisory personnel. ●



Jeff Jacobs (standing) instructs James Jervey (left) and Mitch Norton. Jervey and Norton are students in PDCCC's warehouse and distribution operations career studies certificate program.



## PCFWD hosts SEVA-PORT industry tours for school counselors throughout region

**T**wenty school counselors from Williamsburg-James City County Public Schools, 11 from Gloucester County Schools and 13 from Poquoson and York County Schools participated in three SEVA-PORT industry tours hosted by the Peninsula Council for Workforce Development.

The counselors, who represented local middle and high schools, toured such facilities as Dilon Technology, Wal-Mart Distribution Center, Liebherr, Hampton Roads Technology Council, NASA Langley Research Center, Virginia Modeling and Simulation Center, ECPI College of Technology and the

*(Above) School counselors enjoy the opportunity to visit Liebherr during an industry tour hosted by the Peninsula Council for Workforce Development through funding from the SEVA-PORT grant.*

National Institute of Aeronautics. The intent of the tours, which were held over six days, were to give counselors insight into the economic impact by and development of industries involved with modeling and simulation, as well as transportation, warehousing and distribution. The tours also focused on M&S and TWD's impact on K-12 education and the science, technology, engineering and mathematics industrial base in Hampton Roads.

Informal assessments showed a high level of enthusiasm and interest in industry sectors where counselors had little or no prior experience. The counselors also reported they would encourage students to consider career pathways in these industries. ●

## A dollar for your thoughts

**T**hanks to funding from SEVA-PORT and assistance from Opportunity Inc., 30 students from the Norfolk Career and Technical Center toured the Dollar Tree distribution center in Chesapeake. After the tour, the students returned to the classroom to simulate the logistics processes they observed. They spent the next few weeks working on simulations that could improve or build upon these systems.

During their tour, students observed how packages are received and tracked and how conveyer systems work. They also learned about different types of sensors and the many different jobs available within a warehouse facility. ●

## Advanced Technology Center students design 'green' houses

**V**irginia Beach Public School's Advanced Technology Center (ATC) received a WIRED grant to fund a Sustainable House Design Competition for Computer Aided Drafting and Design II and architectural students. The \$13,500 grant — a collaborative effort among SEVA-PORT partners, Opportunity Inc. and Virginia Beach City Public Schools — provided funds for classroom equipment, instructional materials and supplies, as well as gift cards, framing and plaques for the winners.

Each year, ATC presents a design competition where class Architectural Design class members design a dream home. This year, because of the growing awareness and concern for the environment, the CADD instructor decided to add a green twist to the competition.

Students were tasked with designing a home between 3,500 and 5,000 square feet with four bedrooms, three-and-a-half baths, a living room, kitchen, formal dining room, in-house theater, master bedroom with walk-in closet, a family room/great room and a three-car garage. The home also had to be equipped with a rainwater harvesting system and a solar space-heating system. The homes had to be designed to incorporate as many sustainable or resource-efficient methods of construction as possible.

Students researched sustainable materials and building techniques and gained further insight through the use of a new resource book, *Your Role in the Green Environment*, and class discussions. They also presented position papers on their role as young architectural students in the new green environment.

By May, 17 designs were completed and displayed, with the entire school selecting the top five designs. The top five were judged by architects, sustainable design professionals, Opportunity Inc. representatives and educators for creativity, sustainable design techniques and materials, students' presentation and curb appeal. ●



*With funding from the WIRED grant, ATC students had the opportunity to design houses with architectural software and apply the latest principles in green technology. Hands-on experiences and technical activities in sustainability helped expose them to green career opportunities in the science, technology, engineering and math fields, collectively known as STEM.*