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# San Francisco Bay Area Companies Invest \$1 Million in San Jose State University Initiative to Produce More California Engineers

**KLA-Tencor™ and Xilinx are lead donors to SJSU program that engages Bay Area students in engineering programs and careers, and helps ensure their success**

SAN JOSE, Calif., June 17, 2011 /PRNewswire/ -- San Jose State University's Charles W. Davidson College of Engineering today announced that it has received commitments for \$1 million USD in donations from KLA-Tencor Corporation™, Xilinx, Inc. and San Francisco Bay Area companies to fund its Engineering Pathways to Success (EPS) program. EPS is a public-private initiative to engage Bay Area middle and high school students in science, technology, engineering and mathematics (STEM) education, and empower them to succeed in college engineering programs and engineering careers. More than 2,000 students in 23 Bay Area schools currently participate in the program.

Lead donor KLA-Tencor, a leading provider of process control and yield management solutions, has committed \$500,000 to EPS over five years, funded through the company's charitable organization, the KLA-Tencor Foundation. Lead donor Xilinx, the world's leading provider of programmable platforms, has committed \$250,000 to EPS over five years. Xilinx is donating another \$250,000 directly to schools involved in the EPS program, also over five years as part of a program initiated in 2010. Other Bay Area employers, including Aruba Networks, Cisco, Intel and Chevron, have committed a combined \$250,000 to EPS. Lam Research, Lockheed Martin and Agilent Technologies have contributed directly to area high schools.

"Silicon Valley is the innovation engine of the world, and we need to make sure we are providing enough homegrown engineering talent to keep it running," said SJSU Interim President Don Kassing. "By joining forces with our corporate partners and reaching out to local high school students and teachers, Engineering Pathways to Success is increasing the numbers, diversity and preparedness of California's future engineers."

According to SJSU College of Engineering Dean Belle Wei, of the 85,000 high school seniors in the Bay Area, "45% of them will enter college, but just 10% will plan on becoming engineers. Moreover, based on national statistics,(1) only about half of students who intend to declare a major in STEM fields earn STEM degrees. That is what EPS and our corporate sponsors are working to change."

Added Wei, "One way to produce more engineers overall is to tap larger and more diverse

talent pools. Just 10.3% of U.S. engineering professionals are women and just 4.4% are African American, 11.5% Asian and 4.6% Hispanic. These percentages are very low considering the makeup of the total U.S. population, which means engineering as a profession is falling short in its attempts to reach out to all potential future engineers." [See Table 1]

"The Engineering Pathways to Success program is an important initiative that creates early hands-on access for students, providing unique experiences to attract engagement in STEM disciplines," said Rick Wallace, president and CEO of KLA-Tencor, and member of the Board of Directors for the KLA-Tencor Foundation. "This program is a natural and strategic fit for the KLA-Tencor Foundation to support, as we remain strongly committed to Silicon Valley and cultivating educational opportunities that ultimately lead students on a clear path to success in school and their future engineering-related careers."

"Our support for the EPS program at San Jose State underscores Xilinx's commitment to fostering leadership in a global society, while preparing young people for the workforce of the future," said Ivo Bolsens, Senior Vice President and Chief Technology Officer of Xilinx. "The strength of the program lies in its integration of STEM subjects into elementary and secondary education, which builds a bridge from high schools to San Jose State for future engineers. Support for the program is also a natural extension of our long-standing relationship with the university, which is a rich source of workforce talent for Xilinx."

EPS is a multidisciplinary effort within SJSU that includes the College of Science and the College of Education in addition to the College of Engineering. To achieve its goal of increasing the number and diversity of students who successfully complete college engineering degrees, EPS focuses on three main program elements: Helping middle and high schools implement an engineering curriculum; training new and experienced teachers to teach engineering; and providing intensive summer programs for incoming first-year SJSU engineering students to help them transition from high school to college.

An important foundation for EPS is a nationally prominent engineering curriculum for middle and high schools called Project Lead the Way (PLTW). PLTW curriculum is integrated with math and science and through project based learning introduces students to basic principles and hands-on design engineering activities in a variety of technical disciplines. Launched in 1996, PLTW today serves more than 350,000 students nationwide in more than 4,000 schools – including 230 in California. The SJSU College of Engineering is the Regional Center for PLTW.

The 2,000 students currently engaged in the PLTW curriculum come from 23 Bay Area schools, from Richmond High School in the East Bay, to San Jose High School in downtown San Jose, to Gunn High School in Palo Alto. An additional 20 Bay Area schools will begin offering PLTW classes in fall 2011. Based on demographic data acquired by SJSU, the percentage of female, Asian and Hispanic students in PLTW classes is significantly higher than in the population currently represented in the profession. [See Table 1]

Eric Dias, an 18-year old graduating senior from San Jose High School, started taking PLTW courses three years ago as a sophomore. He also spent four years on his school's robotics team, this past year as lead programmer. Eric heads to SJSU in the fall as an incoming freshman with plans to major in software engineering. "Studying engineering in high school opens up a whole new world for students," said Eric. "You can learn how to model and build

things, and if you really like it, continue on and potentially make some of the things you see online and in video games as a career. I love that."

Incoming SJSU President Mo Qayoumi, who assumes the post on July 1, 2011, has pledged continued support for EPS. Dr. Qayoumi earned a degree in electrical engineering and worked on engineering projects in Saudi Arabia and the United Arab Emirates before coming to the United States, and has long considered STEM education one of his top priorities as an academic leader.

"Increasing the workforce in the STEM fields is essential to our nation's global competitiveness, economic recovery and growth," said Dr. Qayoumi. "Community colleges, four-year colleges and universities, and the business community all must work together and with K-12 schools to engage more young students in STEM disciplines and help them succeed in school and their careers."

### **About the KLA-Tencor Foundation**

KLA-Tencor Corporation established the KLA-Tencor Foundation to focus more closely on the needs of the communities where the company's employees and their families live and work. The KLA-Tencor Foundation encourages all KLA-Tencor employees to share their time, talents and resources with organizations and programs that make a difference in their local communities. With a focus on building relationships with education, health and wellness and social service providers, the KLA-Tencor Foundation aims to inspire individual philanthropy while establishing and maintaining community support programs. Specifically, the KLA-Tencor Foundation seeks to support educational programs and institutions (with an emphasis on STEM – Science, Technology, Engineering and Math), health and wellness programs and providers, as well as local community human needs organizations. Programs supported vary on a global and local scale, and include community initiatives through four key programs, including cash grants, in-kind donations, volunteer time, and matching gifts. Additional information may be found at <http://www.kla-tencor.com/foundation/overview.html>.

### **About Xilinx**

Xilinx is the world's leading provider of programmable platforms. For more information, visit <http://www.xilinx.com>.

### **About PLTW**

Project Lead The Way, Inc., a nonprofit organization with 501(c)(3) tax-exempt status, is the leading provider of rigorous and innovative STEM education curricular programs used in schools. PLTW's comprehensive curriculum has been collaboratively designed by PLTW teachers, university educators, engineering and biomedical professionals, and school administrators to promote critical thinking, creativity, innovation and real-world problem solving skills in students. The hands-on, project-based program engages students on multiple levels, exposes them to areas of study that they typically do not pursue, and provides them with a foundation and proven path to college and career success. More than 350,000 students in nearly 4,000 schools in 50 states plus Washington, D.C., are currently taking PLTW courses. For more information, visit <http://www.pltw.org>.

### **About San Jose State University Charles W. Davidson College of Engineering**

The Charles W. Davidson College of Engineering at San Jose State University, the largest provider of engineers to Silicon Valley companies, has over 4,000 students enrolled in its undergraduate and graduate programs. The college offers engineering degrees in aerospace, chemical, computer, electrical, materials, mechanical, civil and environmental, industrial and systems, and aviation and technology. SJSU's engineering program was ranked 12th nationally among public master's-level programs in U.S. News & World Report's annual survey of "America's Best Colleges 2011." For more information, visit <http://www.engr.sjsu.edu>.

### About San Jose State University

San Jose State – Silicon Valley's largest institution of higher learning with 29,000 students and 3,190 employees – is part of the California State University system. SJSU's 154-acre downtown campus anchors the nation's 10th largest city. For more information, visit <http://www.sjsu.edu>.

Table 1

		% of US Population	% of California Population	% of Santa Clara County	% of Total Bay Area PLTW Sample	% of US Engineering Professionals
Gender	Male	49.3%	50%	51%	72.9%	89.7%
	Female	50.7%	50%	49%	27.1%	10.3%
Ethnicity	African American	12.4%	6.2%	2.6%	4.4%	4.4%
	Asian	4.4%	12.3%	32%	21.5%	11.5%
	Hispanic/ Latino	15.1%	36.1%	26.9%	41.9%	4.6%

Comparison of US, California, Santa Clara County, Bay Area PLTW, and US engineering demographics

(Bureau of Labor Statistics, 2011; U.S. Census Bureau, 2005-2009).

(1) Sources: 2009 data from kidsdata.org; California Post-Secondary Education Commission; based on national averages compiled by American Society for Engineering Education; National Center for Education Statistics, NCES 2009-161. Students who study Science, Technology, Engineering, and Mathematics (STEM) in postsecondary education, Washington, DC: U.S Department of Education, Institute for Education Sciences.

SOURCE KLA-Tencor Corporation

