DEARBORN, Mich., February 7, 2012 — Will we be

Society of Manufacturing Engineers

SME Education Foundation has provided funding to 167 Project Lead The Way high schools for equipment and material upgrades to their Computer Integrated Manufacturing (CIM) programs.

DEARBORN, Mich., February 7, 2012 Will we be ready? In 2012 the SME Education Foundation [1] continued funding $400,000 to 167 Project Lead The Way (PLTW) [2] high schools across the country for equipment and classroom material upgrades for their Computer Integrated Manufacturing (CIM) program which includes the VEX® Robotics Design System.

According to the Bureau of Labor Statistics, by 2018, it is estimated that total U.S. Science, Technology, Engineering and Mathematics (STEM) occupations will grow by 17 percent to 8.6 million jobs, almost 70 percent of which will require a bachelors degree or higher level of education. Mark P. Mills, a physicist who writes the Forbes Energy Intelligence column, and Julio M. Ottino, dean of the McCormick School of Engineering and Applied Science at Northwestern University, say, Big data, smart manufacturing and the wireless revolution are the three great technological transformations with the potential to rival that of the past century.

To meet these often reported industry projections, PLTW curriculum is always up-to-date and relevant with input from industry partners and high school and college instructors. While the majority of concepts for these courses remain in place, new and exciting projects and problems have been created to engage students.

In 2009 a PLTW agreement with VEX® Robotics resulted in schools transitioning to a new platform which included the adoption of comprehensive programming software. And, a PLTW partnership with Carnegie Mellon Robotics Academy, a research based, world leader in educational robotics supporting ROBOTC® software, and included in the new platform, provided the PLTW network with an exceptional range of support for new resources.

As part of the transition, PLTW high schools offering the CIM course were required to purchase additional equipment to accommodate the upgrades. The SME Education Foundation honored its commitment to PLTW and provided funding to PLTW high schools where the CIM course was offered.

Technological transformations and unimaginable markets for services and businesses will be defined by high talent, said Bart A. Aslin, CEO, SME Education Foundation. Our funding is based on preparing young people for careers in industries with the greatest potential for long-term economic growth advanced manufacturers and developers and producers of high-tech complex products.

Computer Integrated Manufacturing (CIM) is one of five PLTW specialization courses

and poses questions to 10th, 11th or 12th grade students such as: How are things made? What processes go into creating products? Is the process for making a water bottle the same as it is for a musical instrument? How do assembly lines work? How has automation changed the face of manufacturing? While students discover the answers to these questions, theyre learning about the history of manufacturing, robotics and automation, manufacturing processes, computer modeling, manufacturing equipment, and flexible manufacturing systems.

The VEX Robotics Design System the exclusive platform offered to PLTW schools by PLTW, offers updated, rigorous hands-on project-based robotics lessons to its students. While the majority of robotics programs for students are either after-school or at weekend competitions, PLTW students are provided with opportunities to experience this hands-on robotics curriculum in the classroom, as they would math and science.

The exclusive relationship with VEX Design System Robotics gives each PLTW classroom access to participation in the VEX Robotics Competition. The competition is the largest and fastest growing middle and high school robotics competition in the world, allowing students to apply their robotics knowledge from the classroom in a unique, problem-solving environment.

PLTW offers the one-year, CIM specialization course for junior and senior high school students who have completed introductory PLTW coursework. The PLTW Pathway To Engineering (PTE) program is a sequence of courses, which follows a proven hands-on, real-world problem-solving approach to learning. Throughout PTE, students learn and apply the design process, acquire strong teamwork and communication proficiency and develop organizational, critical-thinking and problem-solving skills.

They discover the answers to questions like how are things made and what processes go into creating products. Students use the same industry-leading 3D design software used by companies like Intel, Lockheed Martin and Pixar. They explore aerodynamics, astronautics and space life sciences. Hello, NASA. Students apply biological and engineering concepts related to biomechanics think robotics. They design, test and actually construct circuits and devices such as smart phones and tablets and work collaboratively on a culminating capstone project. Its STEM education and its at the heart of todays high-tech, high-skill global economy.

The series of introductory courses offered by PLTW include: Introduction to Engineering Design (IED) for 9th or 10th grade students, and Principles of Engineering (POE), for 10th or 11th grade students. Specialization courses include Aerospace Engineering (AE). Biotechnical Engineering (BE), Civil Engineering and Architecture (CEA), Computer Integrated Manufacturing (CIM), and Digital Electronics (DE). The Capstone Course, Engineering Design and Development (EDD), allows students to work in a team to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process.

In fall 2011, the SME Education Foundation launched a community-based approach to manufacturing education. Through PRIME (Partnership Response in

Manufacturing Education), high school students are introduced to CIM courses and career opportunities in advanced manufacturing. The collaborative efforts of local SME Chapter [3] members, Chambers of Commerce, small business and industry are aligning to provide student tours, mentoring and internships.

In 2012, funding for CIM equipment and classroom material upgrades was directed to PLTW high schools in the following states: California, Illinois, Indiana, Iowa, Michigan, Missouri, Minnesota, New Hampshire, New Jersey, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Washington and Wisconsin.

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 (science, technology, engineering and mathematics) 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 4,200 schools in all 50 states and the District of Columbia are currently offering PLTW courses to their students. For more information, visit www.pltw.org [2]

About VEX Robotics:
VEX Robotics, Inc., a wholly-owned subsidiary of Innovation First International, is a leading provider of educational robotics products to middle schools, high schools and colleges around the world. The company has over 250 man years of experience supporting educational robotics programs and extensive engineering resources on two continents dedicated to the VEX Robotics platform. For more information, visit www.vexrobotics.com [4]

About the SME Education Foundation:
The SME Education Foundation is committed to inspiring, supporting and preparing the next generation of manufacturing engineers and technologists in the advancement of manufacturing education. Created by the Society of Manufacturing Engineers in 1979, the SME Education Foundation has provided more than $31 million since 1980 in grants, scholarships and awards through its partnerships with corporations, organizations, foundations, and individual donors. Visit www.smeef.org [1]. Also visit www.CareerMe.org [5] for information on advanced manufacturing careers and our award-winning Web site for young people, www.ManufacturingisCool.com [6]

Media Contact:

SME Education Foundation, 313.425-3300, foundation@sme.org [7]

SOURCE [8]

Source URL (retrieved on *10/23/2014 - 3:08am*):
http://www.chem.info/news/2012/02/dearborn-mich-february-7-2012-%E2%80%94-will-we-be

Links:
[1] http://www.smeef.org/
[2] http://www.pltw.org/
[3] http://www.sme.org/chapters/
[4] http://www.vexrobotics.com/
[5] http://www.careerme.org/
[6] http://www.manufacturingiscool.com/
[7] http://feedproxy.google.com/~r/sme/~3/RxN4NwGXkbw/mailto:foundation@sme.org
[8] http://feedproxy.google.com/~r/sme/~3/RxN4NwGXkbw/Tertiary.aspx