



This workforce solution was funded by a grant awarded under Workforce Innovation in Regional Economic Development (WIRED) as implemented by the U.S. Department of Labor's Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permissible. All other uses require the prior authorization of the copyright owner.

INDUSTRY/EMPLOYER ROLE

Employers recognize the “high stakes” of STEM education for today’s 21st century worker. The need for STEM workers – at both the professional and technician levels – has reached crisis proportions. The high-tech, high-growth field of air and space alone employs an approximate 600,000 people in high-paying jobs spread throughout 6,000 California companies. California employs 18% of the nation’s technical workforce.

In 2020, the number of jobs requiring a college degree will outstrip the number of jobs which do not, with most of those jobs being STEM-related. On top of that, forty-five percent of today’s current science and engineering workforce will retire within the next few years. The need for STEM-related technicians is perhaps even greater, with some citing that every engineering position generates six positions for technicians, illustrating the importance not only of STEM-related baccalaureate graduates, but also the need for career technical education.

Education and academia have traditionally seen industry and the greater employer community as funding and advocacy partners, but the STEM CAP articulates a much more expansive role. The desired role described by employer stakeholders at a 2007 STEM CAP forum was to be an engaged STEM partner/supporter serving as an extension of both the public education system and the informal science community, providing expertise for a variety of functions.

Employers annually spend millions of dollars on training and education. With much in-house training and education taking place, many employers have developed valuable expertise in program and curriculum development and review, assessment, professional development strategies, systems analyses, scaling of programs, development of metrics and tracking systems and other education-related functions. Yet seldom are employers tapped for this expertise.

STEM CAP stakeholders from the industry/employer community have identified three areas of support they can offer: people, facilities and content. Their people can provide content support for professional development of educators, serve as classroom coaches, career advisors, lab mentors, science demonstrators, and internship advisors. Their facilities can be used for career awareness tours, specialized equipment training for educators and/or students, retired equipment contributions, work-ready experience, internships, project sites. In the area of content, industry can support the development of relevant curriculum, provide project and inquiry-based learning challenges, textbook review, case studies, and hands-on training.

The employer challenge to educators is to think of industry and employer stakeholders as a resource beyond advocacy and funding – for leadership, mentoring, advising, program content support, policy development, career awareness and project-based learning. The benefit for California is that, by leveraging employer understanding of today’s workplace and today’s technologies, the state can greatly accelerate the ability of education and academia to meet the career and job preparation needs of their students.

