

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Space Workforce Development - Problems Encountered and Resolutions (7)

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INSPIRING AND DEVELOPING THE NEXT GENERATION OF SCIENTISTS AND ENGINEERS –
A LOCKHEED MARTIN PERSPECTIVE

Abstract

The Space Race spurred a generation of scientists and engineers in the United States that are now at or nearing retirement age. Going to the moon was very exciting for the Space Race Generation, but has become routine for many in the younger generations.

The pipeline of young scientists and engineers is insufficient to meet the projected needs of government and industry. For example, recent data from the U.S. Bureau of Labor and Statistics suggests that by 2016, the U.S. will need approximately 1.7 million new engineers to fill growth requirements and to cover attrition. The number may be less now due to the current economic crisis, but nevertheless, the U.S. is expecting a substantial shortfall of engineers.

Lockheed Martin, the largest defense contractor in the United States, expects to hire approximately 35,000 engineers over the next three years. While Lockheed Martin is able to hire approximately 5 percent of the new engineering graduates, the challenge is to create an environment that meets the needs of the recent graduates so that they stay with the company and enjoy a rewarding career. This challenge is met, in part, by a variety of activities including exciting job assignments (such as the Mars Phoenix Lander), mentoring, rotational programs, an inclusive work environment, encouragement to pursue advanced degrees, and flexible work schedules.

The students that Lockheed Martin needs to hire in 2020 are currently in about the 5th grade. To help meet the workforce needs of 2020 Lockheed Martin is very involved in programs to get students of all ages, genders, and ethnic backgrounds excited about Science, Technology, Engineering, and Math (STEM). Employees are encouraged to visit local classrooms and generate enthusiasm for STEM-related activities. Lockheed Martin has programs to reach out to each stakeholder critical to improving the supply of scientists and engineers - including school administrators, parents, students, industry and government.

The United States is embarking on an important initiative to improve the quality of education and schools. The challenge is large, but through aggressive corporate initiatives such as those included here, progress can be made to generate the scientists and engineers that the country needs to maintain a healthy industrial base.