

U.S. aerospace companies boost technical education

(Reuters) - U.S. aerospace and defense companies are stepping up support for educational programs in hope of encouraging students to pursue technical careers to help replace an expected flood of worker retirements.

Companies are sponsoring student robotics competitions, forming partnerships with technical schools and calling for higher national education standards in an effort to bring new urgency to the coming U.S. shortage of workers trained in science, technology, engineering and mathematics (STEM).

"If we can work on retention and we can work on the excitement of STEM or engineering, then we can change the equation," William Swanson, chief executive of Raytheon Co, said in an interview.

A 2010 study by Aviation Week magazine found that, among companies with more than 100,000 workers, 19 percent of employees are now at retirement age. That figure will jump to more than 30 percent in 2012 and nearly 40 percent by 2014, the publication said.

But with only about 70,000 bachelor's degrees in engineering awarded in the United States annually, according to a 2008 report from the Aerospace Industries Association trade group, there are not enough graduates to replenish the workforce.

US CITIZENSHIP

The problem hits home for aerospace and defense companies especially, as many engineering jobs in the field are only open to U.S. citizens because of security requirements.

"I have a lot of positions, but a lot of times I may not be able to fill them because I don't have U.S. citizens," said Lisa Kollar, executive director of career services at Embry-Riddle Aeronautical University, one of the top U.S. schools for aerospace recruitment.

Raytheon's Swanson said the shortfall in engineering-trained talent could pose a national security danger because it can limit the ability of the United States to be innovative and compete on the world stage.

"I have nothing against the service industry," Swanson said. "I just don't see our country being a great country if we're flipping hamburgers and selling coffee."

Raytheon is targeting students at the middle-school level as research shows that is when children lose interest in science and math. The missile maker created

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MathMovesU, a program that includes an interactive website, contests, live events, scholarships and tutoring to help send the message that math and science are cool and can lead to interesting careers.

Aerospace companies are also calling for better training and pay for math and science teachers.

"The gestation period for fixing this may be three, four, five, 10 years out before you start to see the curve change," Swanson said.

Clay Jones, the CEO of avionics maker Rockwell Collins Inc, said if there is not enough U.S. technical talent to meet the need, aerospace companies may have no choice but to go after more workers in places that are producing STEM-trained personnel, such as India and China.

Five percent of U.S. bachelor's degrees are in engineering, compared with 20 percent in Asia, according to the Aerospace Industries Association report.

"It's not so much that the source of supply is not there," Jones said. "It's that the source of supply in the United States may not be there."

Rockwell Collins sponsors U.S. competitions such as FIRST Robotics and contests that allow students to assemble rockets and design cities to provide hands-on engineering experience.

"Our involvement in these kinds of programs is so critical because it brings home what it means to be an engineer," Jones said. "That's the critical element we hope will be part of the catalyst to solving this problem."

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