

# Where will we find the next generation of engineers?

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A new study that examines the number of engineering graduates coming out of our nation's engineering schools reveals a mixed picture of how prepared each state is for meeting the need for high-tech workers in the coming years.

Greg Schuckman, Assistant Vice President of University Relations and Director of Federal Relations and Research Advancement at the University of Central Florida, authored the study after revisiting data that he had analyzed in 1998 while working for the American Association of Engineering Societies (AAES) in Washington, DC. "Over the past 20 years, the number of students earning bachelors degrees in engineering has declined by almost 3 percent nationally," says Schuckman. "While that statistic may not seem significant by itself, the decline comes at a time when the number of students receiving bachelors degrees overall in the United States has increased by more than 50 percent."

John Brooks Slaughter, Ph.D., P.E., President and CEO of the National Action Council for Minorities in Engineering, Inc. (NACME) noted last year that, "Huge changes have occurred in our economy largely as a result of globalization and technological innovation. Manufacturing has declined while the information age requires more professional and high-tech skills from employees.

It is estimated that more than a half million engineers will be needed over the next decade to replace those who retire and that at least that

many new engineers will be needed to fill the demand that will exist at the end of that period. We find ourselves importing talent and exporting jobs, not just because it is less expensive to have the work performed by lower-wage skilled workers in developing countries but also because we do not produce enough native-born, well-qualified scientists and engineers in our nation's colleges and universities.”

Overall, twenty states increased their production of engineering graduates while 30 states and the District of Columbia decreased between 1986 and 2006.

“The space race was won in no small part through the engineering prowess of young students who were emboldened by the launch of Sputnik.” says Schuckman. “While there is no definitive ‘Sputnik moment’ today, the competitiveness challenge that nations such as China, India, and others pose to the U.S. is as real a threat to our way of life today as Sputnik was 50 years ago.”

Sam Palmisano, President and CEO of the IBM Corporation and Honorary Co-Chair of the 2008 National Engineers Week, summed up the challenge: “We need to recruit engineers from a broad cross-section of society, and this means reaching out to populations that are underrepresented in the engineering professions. Only 11 percent in the United States today are women, 3 percent Blacks and 4 percent Hispanics. These statistics reveal a large reservoir of potential engineers that is not being fully tapped. I encourage you to use the E-Week 2008 campaign to inspire the next generation of engineers, reaching out to a diverse cross section of youngsters, independent of gender, ethnicity, or physical disability. And finally, let's engage the general public to see, touch and embrace engineering, the source of so much of the prosperity, growth and hope that are reaching more and more people around the globe.”

Source: University of Central Florida

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