



Obama: 'We don't have enough engineers'

A look at the numbers behind the president's call for 10,000 new engineers in the U.S.

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WASHINGTON -- President Barack Obama is making a push to train 10,000 new American engineers a year, primarily with the help of the private sector.

Obama is trying to address the nation's persistently high unemployment level by boosting the number of people with skills in areas where unemployment is relatively low. Engineering fits that bill.

The unemployment rate in 2010 for all engineers was 4.5%. For software engineers it was 4.6%, and for all computing professionals, 5.4%, according to U.S. Labor Department data analyzed by the IEEE-USA.

"We've made incredible progress on education, helping students to finance their college educations, but we still [don't have enough engineers](#)," said Obama, who has compared the U.S. educational needs to those following the 1957 [launch of Sputnik](#).

The U.S. had just over 1.9 million engineers in 2010, according to Labor Department data. Software engineers make up nearly half of that total. The number of [employed engineers](#) declined during the recession.

Obama, who outlined the goal on Monday, said the idea is to achieve the 10,000-engineer-increase without "a whole bunch of federal funding."

To boost engineering enrollments, Obama said private sector companies will promote science, technology, engineering and math education, offer students incentives to finish degrees, and help universities fund their programs. The participating companies intend to double their internship hiring.

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What would an extra 10,000 engineering graduates accomplish?

In 2009, the U.S. produced 126,194 engineering graduates for bachelor's and master's degrees and for Ph.D.s.; increasing that total by 10,000 would add 8%.

If the White House focus is just on engineers with bachelor's degrees, that number totaled 75,320 in 2009; an additional 10,000 would boost the number of graduates by just over 13%.


In 2009, there were 41,967 master's degrees, and 8,907 Ph.D. degrees awarded, according to the IEEE-USA, which assembled this data from an American Association of Engineering Societies study.

"Engineers have always played a prominent role in driving innovation and creating jobs," IEEE-USA President Ron Jensen said. "We're pleased that our nation's leaders recognize this and look forward to working with the administration and Congress to strengthen America's high-tech workforce."

Obama outlined his goals Monday, outlining a push that he developed with the help of his Jobs and Competitiveness Council. That presidential commission has 26 members, including CEOs at several tech firms: Paul Otellini, the CEO of [Intel](#); Ursula Burns, the CEO of Xerox; John Doerr, the venture capitalist at Kleiner Perkins Caufield & Byers; and Sheryl Sandberg, the chief operating officer at [Facebook](#). The chairman of the Jobs and Competitiveness Council is Jeffrey Immelt, who is chairman and CEO of GE.

Obama said Otellini "is heading up our task force for the Jobs Council in helping to figure this out, because he understands Intel's survival depends on our ability to get a steady stream of engineers."

A report last year by the National Academy aimed at drawing attention to the U.S. production of science, engineering, technology and math talent, pointed out that the U.S. graduates more visual arts and performing arts majors than engineers. It also noted that the U.S. ranks 27th among developed nations in the proportion of college students receiving undergraduate degrees in science and engineering.

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