UTAH ENGINEERING ROLLS TO SOAR
LEAVITT PLANS TO DOUBLE NUMBER, BOOST FUNDING

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Gov. Mike Leavitt announced Monday a plan to double the number of engineering and computer science students at Utah's colleges, universities and training centers in the next five years.

"And our goal is to triple the number in eight years," Leavitt said.

To fund that goal, the governor said, he will encourage the Legislature to increase funding to higher education by $8 million — to $12 million annually.

"The actual number (of dollars) will depend on the rate at which we can convert current (academic) programs," he said.

Leavitt indicated part of that money might come from this year's $122 million state budget surplus, but Utah "can't do this all with new money. It will require some internal reallocation."

"With this plan, everyone wins," the governor said. "Students get high-paying jobs, family-wage jobs. Business ends up with an employee that is well prepared to compete in the global marketplace. And taxpayers win because we're able to fund education and fuel the economy without raising taxes."

Member of the Utah Board of Regents, college and university presidents and CEOs of more than a dozen high-tech companies joined the governor at the University of Utah to announce the plan.

"This is a level of support I haven't seen since I've been in Utah," U. President Bernie Machen said. "I'm delighted to see the governor and Legislature move in this direction."

Whether Machen is delighted after the 2001 Legislature remains to be seen. Higher education has received a smaller percentage of the state budget over the past 10 years.

Machen said he expects individual institutions will have to make some tough budget choices to make the plan work. "This is not just an extended hand for more resources," he said.

The governor has made it clear he believes the state's financial future lies, in very large part, in the development of technology.

And he gets no argument from others in the technology industry. Richard Nelson, director of the Utah Information Technology Association, put it this way: "There's no question the growth engine of the state is high technology, including the life sciences. It has good pay and all the other right things."

But there's a problem. Namely, a shortage of skilled employees, trained in engineering, computer sciences and related programs at colleges, universities and other programs in the state.

A recent study by the association found that 93 percent of high-technology companies here are "having a hard time meeting their need for qualified engineers, computer science and technology people," Nelson said. Because of that, "almost half (available high-tech jobs) are not filled because they can't find people with the right skills."

Of the jobs that sit open in the field of technology, the average salary is $52,000. "There would be an enormous upside for the state if we could work together on it," Nelson said.

Not all the tech companies have the same needs. So some are hit harder by limited trained people than others. Some can train their own employees in the specifics of their programs, given people who are willing and able to learn and who have some understanding of technology. Others need people who have skills that may be harder to come by.

emWare is one of the former companies. Todd Rytting, vice president of technical services, has hired graduates at all levels, with all types of educational backgrounds, including second-year engineering students, who start as interns. They require some extensive training but have an opportunity to grow into the company.

Although students don't always have the skills he'd like to see, the education they've received has prepared them for the learning process, he said. Then the company teaches about its product and specific skill set needed. But a number of emWare employees have been recruited from outside the area.

The shortage of skilled engineers isn't unique to Utah, according to Ryan Ashton, vice president of marketing for Inari. "You will find difficulty finding engineers anywhere. And we are developing a lot of good engineers in high tech," especially from programs at the University of Utah and Brigham Young University. "So we are more or less able to meet our needs locally. But there are never enough of them."

The problem isn't with the education system, he said, but rather the fact that "Americans are not particularly interested in the hard sciences. We wind up with too few engineers, etc. So we are really filling our needs with Asians and others. It's not a function of providing education, but there are not students interested in doing that hard work. I was like that. It was too much math. My impression is the universities would grow programs in a heartbeat if they had the demand."

Employers at Campus Pipeline, with a work force of about 170, are pretty happy with the technical skills of entry-level workers, whether they've come from the universities or the technology centers. But they are very selective and the skills have to match what they're seeking, according to MC Patton, human resources director.

What's less appealing is the dearth of graduates in technology-related fields.

"What the colleges need to know is what they could do better is prepare more. They should encourage more people to get into the program."

The language of technology is evolving and that creates some hiring problems, too. A software engineer at one company might not be the same thing at another.

When they find a good employee, Patton said, they work hard to retain him or her. They take a flexible approach and try to keep work fun, while dealing with cutting-edge technology. They have a mentor program so that new employees can continue to improve their skills.

David Politis of Politis Communications sees two issues. The first is whether the skill sets students are acquiring, whether in universities or technology centers is as good as those trained elsewhere. He believes the answer is yes.

The U. has a great engineering program, he said, while BYU has top-notch computer science engineering programs. The technical colleges, Weber State University's "great" applied technology programs are also "all positives" to meet employment needs.

But again, there simply aren't enough skilled high-tech workers.

The good news, he said, is that more and more colleges, universities and other post-high-school forms of higher education are recognizing "we've got to deliver more opportunities for technology. Students are being exposed to technology at earlier ages.

And as more technology companies come to Utah, many pleased with existing programs even if there isn't enough, and almost unanimously praising the state's "work ethic," the experts agree that more education will be made available. It's simply a matter of time.

But that doesn't fill the positions that exist now, they say.