STEM VENTURE GETS OFF THE GROUND
Schools, businesses and other local interests gather at Mentor Graphics for an overview of the Salem-South Metro STEM Partnership

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Published: 1/29/2013 10:44:08 AM

Public schools increasingly need all the financial assistance they can muster.

This is particularly true when it comes to science and engineering education, where laboratory facilities and advanced technology can make the cost of providing adequate classes prohibitive.

That’s where the Salem-South Metro STEM Partnership finds its inspiration.

Part of a new breed of public-private collaboration, it is the type of teamwork that is finding increasing traction in both sectors of the economy, largely because it provides both with tangible benefits.

“We are very dependent on the ability to produce more qualified engineers,” Mentor Graphics Chief Executive Officer Waiden Rhines said Jan. 11 at the first comprehensive gathering involving the dozens of Oregon public school districts, high technology companies and educational groups such as Oregon FIRST robotics that have signed up to the Partnership.

Over 1,000 of its 5,000 engineers internationally call Wilsonville home, Rhines said.

“Our local payroll in the Portland area is $130 million per year that those thousand engineers take home,’’ he said. “These are good paying jobs that grow the local economy. But we are very dependent on hiring the best and brightest engineers. Worldwide, we do need engineers in close proximity to our customers. It’s our preference – and it’s true – that if you talk to the managers here, they would prefer to be hiring more people from Oregon. Because in China, there are six engineering graduates for every one in the U.S.”

Closing that education gap is the main goal of the Salem-South Metro STEM Partnership. By focusing more on science, technology, engineering and math, or STEM, education in grades K-12, the group hopes to eventually improve an Oregon system of higher education that produced less than 1,000 college graduates in 2011 who earned a degree in a STEM discipline.

The number actually is 923, and it represents less than 2.5 percent of the 39,700 Oregon 10th graders who took standardized assessment tests during the 2003-04 school year.

For Craig Hudson, CEO of the Salem-based Garmin AT of GPS fame, that’s not good enough.

“We’ve been talking a lot about this within our circle of employers, and our goal is to double that number,” Hudson said. “Clearly we can do a lot better.”

Mentor Graphics and Garmin are two of the big name firms who have signed up for the Partnership, which gathered for the first time on Jan. 11 at Mentor Graphics’ Wilsonville campus. The group envisions partnering actively with public school districts through outside vehicles such as U.S. FIRST, the popular robotics organization founded by inventor Dean Kamen.
In addition, by connecting businesses to schools, the Partnership envision more internships and business-school connections, as well as enhanced dual high school-college credit and advanced placement courses.

Hudson tossed around a number of statistics, including one that shows there are 1.7 STEM jobs currently open for every unemployed STEM college graduate, compared with 4.3 unemployed workers competing for each non-STEM position.

"As we've seen over the last four years, even with a decrease in our economy, we've still maintained in many instances strong STEM employment," said Hudson, who expects to struggle even more to attract qualified engineers in the future as the economy improves. "We have to bring more kids into this state than we educate in the state."

The Partnership is driven at the state level in part by Governor John Kitzhaber's 40-40-20 plan. Approved the Oregon Legislature in its 2011 session, Senate Bill 253 calls for 40 percent of Oregonians to hold a university degree, 40 percent an associate's degree and the remaining 20 percent a high school diploma or GED by 2025.

It also has allies at the federal level. U.S. Senator Jeff Merkley took time out of a West Coast jaunt to speak briefly at the breakfast meeting at Mentor Graphics. He said it's obvious to him that the future of the American economy will be tightly tied to fields involving high technology.

"Certainly, when we think about the future of this country and our economy," Merkley said, "high technology plays into it at every level, certainly in the medical field, and certainly in the electronics field, and so on and so forth."

Merkley pointed to the ongoing partisan battles in Congress and said he hopes they can be overcome as part of a push to help facilitate the goals of groups such as the Partnership. Including funding for STEM education in a replacement bill for the No Child Left Behind Act, as well as a reauthorization of the Workforce Investment Act would be a good start, he said.

"Those two pieces would work very well together," he said.

Dr. Hilda Rosselli of the Oregon Education Investment Board, an organization created by Kitzhaber to help oversee education goals at all levels, outlined a proposal to create so-called STEM Hubs.

As envisioned, these hubs would feature a regional flagship facility, perhaps housed at a university. It would feature a comprehensive STEM lab, and its personnel would be responsible for organizing and directing STEM education projects at surrounding schools and districts. The hubs would bring public and private sector entities together to work toward the aforementioned goals and push students toward STEM degrees once they reach college.

"We have to improve infrastructure equipment and machinery in existing STEM and CTE (career technical education) facilities to absorb greater numbers of students," Rosselli said. "They are woefully underfunded, under equipped and behind the times. We cannot have them working with curriculum and materials that are 20 years old, or holding bake sales to raise the money for new equipment and materials."

The Jan. 11 meeting is the hoped-for start down that path, said Lita Colligan, Associate Vice President of Strategic Partnerships for the Oregon Institute of Technology, which opened a campus last fall in Wilsonville in the former headquarters of InFocus.

"It's the big picture you're being given today," said Colligan. "We're issuing a call for action, that's what it's really all about. It's so they (students) can connect the dots between the courses they take at school and the degrees they pursue and the great, creative and financially rewarding jobs they get with your companies in your industries. We want to make sure Oregon students are first in line for STEM jobs."

At a Glance:

*Industry Partners*: Garmin AT, Intel, Mentor Graphics;

*Community Partners*: Evergreen Aviation and Space Museum, Oregon FIRST, Mad Science of Portland and Vancouver, Project Lead The Way, Business Education Compact;

School Districts and ESUs: Amity, Canby, Gladstone, Lake Oswego, Oregon City, McMinnville, Molalla River, North Clackamas, Salem-Keizer, Tigard-Tualatin, West Linn-Wilsonville, Woodburn, Clackamas CTE Consortium;

Community Colleges: Chemeketa, Clackamas;

*Universities*: Oregon Tech, Pacific, Western Oregon;