

Wanted: Good engineers

High-tech firms find complex market in Northwest Indiana

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Want a \$62,000-a-year job in a growing industry an hour's drive from a world-class city? Apply today!

Most people would imagine that ad would have no trouble attracting job applicants.

But add in the details — a required master's degree in computer engineering, strong background in higher mathematics, U.S. citizenship and government security clearance — and that number can suddenly become very small.

That's the situation that Leslie Hielema, managing director of the Indiana office of ProLogic Inc., a computer engineering firm specializing in government contracts, finds herself in.

Because of the sensitive work her office does for the Department of Defense, Hielema is restricted to hiring U.S. citizens, which eliminates a large portion of the applications she receives from her job postings.

"If I could hire non-U.S. citizens, I'd have a good organization built up," she said.

The positions she's hiring are fairly sophisticated, varying from a mid-level software engineer with a master's degree or several years experience to a senior scientist with a doctorate.

Some have been left unfilled for months while she looks for a qualified individual who meets the security requirements.

More than inconvenient, these hiring delays burden other employees who must pick up the slack and hamper the growth of the office.

"I can't grow my business, obviously," Hielema said.

Hielema is hopeful, however, that as Northwest Indiana becomes better known for its high-tech industries it will become a destination for

engineers, helping ProLogic and other companies get the attention of qualified job applicants.

More than one kind

The job market for engineers in Northwest Indiana — and across the country — is complex.

"I can make an argument for there being too many engineers, and an argument for there being not enough," Larry Jacobson, executive director of the National Society of Professional Engineers, said.

The difference, he said, is in what type of engineer you're talking about.

Academics divide engineers into two groups: "transactional" engineers who perform tasks by rote, applying the knowledge they've learned to a set of repetitive tasks, and "dynamic" engineers who use their judgment, creativity and knowledge to find new solutions to problems.

The first type, according to Jacobson, is not hard to find, while the second type is rare and in high demand.

"It's pretty tough to get first-rate engineers who are not only first rate, but can get (security) clearance," he said. "If you're Lockheed Martin, the widgets you're making can't be contracted out. You can't contract out a Cruise missile to a guy in India."

Local prospects vary

Here in Northwest Indiana, the high-tech job market appears small, but growing.

Josh Marlow, a senior in mechanical engineering at Purdue University Calumet, is set to graduate this May and is casting about for full-time employment.

Marlow has interned since last April with NiSource, which is admittedly not at the forefront of engineering, but he is nevertheless

optimistic about his job prospects in the area.

"(The job market) is pretty good. There's quite a lot of jobs around this area," Marlow said.

Looking to stay close to his family in Merrillville, Marlow said he would like to stay on with NiSource, but is also interested in some Chicago positions, including BP. He's had two job interviews since December, though no job offers yet.

"I'm confident that I'll have something secured by (graduation day)," he said.

Marlow had the luxury of being able to apply to several top-notch engineering programs in the state, including Purdue's West Lafayette campus, which awards the third most engineering degrees in the nation each year.

Purdue University Calumet has roughly tripled the size of its graduate engineering program in the past

few years, though the school's dean, Dan Suson, said the increase has been primarily in international students.

Purdue Technology Center, where ProLogic Inc. is located, serves as a technology incubator, helping develop companies that can create high-skilled engineering jobs for the region.

Less than two years ago, the combined work force of the companies in the center was a grand total of two. By the end of 2007, that total had reached 82, though five of the 19 firms housed in the center, such as the Regional Development Authority, are not high-tech firms.

That initial success has helped spawn efforts to start other incubators in Hammond and Valparaiso.

The Indiana Department of Workforce Development estimates that the northwest region of the state, which includes Lake, Porter, LaPorte and surrounding counties, will add 60 computer software application engineers in the next six



years, bringing the total to 200.

In contrast, the number of registered nurses is expected to grow by 1,760 to more than 9,000 by 2014.

While the state ranks computer software engineering fifth on its list of the "hottest" jobs in the state, a ranking determined by projected job growth and average wages, it ranks only 18th in the seven-county Northwest Indiana region. Engineering of any kind is absent from the state's list of the 10 fastest growing jobs in the region, and no scientific skills are included in its list of the 20 most-sought after skills in employees.

Future growth expected

But many of those involved in the local technology industry are optimistic.

21CSI, another defense contrac-

tor housed at the Purdue technology center on Broadway in Merrillville, hired four engineers last year, all of whom are from the area.

Bob Wichlinski, a 21CSI executive, said his company constantly recruits at 12 locations around the country, and his office hopes to add an additional four to six engineers in 2008.

U.S. Steel Gary Works, the iconic image of Northwest Indiana's steel-belt heyday, now finds itself fighting its previous foundry-like image.

"Steel making defines high-technology today," said John Armstrong, spokesman for U.S. Steel. "That's one of the things we have to do when we recruit; we have to let people know what we're about. People still think you've got guys with their shirts off. It's not (like that). It's extremely high-tech."

Armstrong said the most notable

change in the past generation is the number of Internet technology engineers hired to monitor the increasingly computerized process of steel manufacturing.

Armstrong would not say how many engineers are hired at Gary Works a year, and could not say from how far afield those hired come, but did say the company has never failed to find the number of people it needs.

Wichlinski, who has been involved in the area's technology industry for the past 25 years, is excited about where it's headed.

"You've got to work hard, really hard" to make a technology firm take off, he said. "It's not going to be easy, but it'll be worth it."



LESLIE ADKINS/POST-TRIBUNE

Leslie Hielema of ProLogic Inc. in Crown Point works with software engineer Nicholas Bushby on a mathematical model. The company does work for the federal government.