

Life Sciences Prowess

Panelists Say Indiana Possesses the Right Formula

By Candace Gwaltney

Fact or fiction: Ten percent of Indiana's employment base is in life sciences? Fact. Life sciences comprise 20% of the tax base in Indiana? Fact.

Despite past successes and recent growth in the industry, BioCrossroads President and CEO David Johnson meets people who will "vigorously debate" these facts with him because Indiana's excellence in the field is underestimated. And these conversations occur with people within the state who Johnson says are "not used to thinking of the state that way."

Johnson refers to this battle as "Hoosier modesty." He says people get stuck on the idea that all the "cool things" happen on each of the coasts, and they certainly aren't happening in Indiana.

"Our primary focus of our media and branding strategy is not other states, it's not other countries, it's people who live right here. And the essential message is this is not a game we're trying to get into, this is a game we're already in," Johnson emphasizes. "We need to play very well, we need to play very fast, and we need to understand what we have so we can make more of it."

Our Experts:

- **David Johnson**, president and CEO of BioCrossroads
- **Kevin McLaren**, an attorney at Barnes & Thornburg who practices in the firm's life sciences group
- **Alisa Wright**, CEO of Bloomington-based BioConvergence

Johnson, McLaren and Wright agree that Indiana has positioned itself as a leader in the life sciences, but nurturing that status and remaining in a position for growth requires continuous care.

Shifting employment base

When an automaker decides to locate in a new city, the impact isn't just in the jobs created at the plant; it's also measured in the ancillary parts and logistics companies that open.

When asked about the similarities between the two industries, Johnson notes BioCrossroads is asked often if the growth and number of jobs in life sciences will supplement on a job-per-job basis the losses in the automotive industry. He points to the highly respected Biotechnology Industry Organization-Battelle report that indicates nationally 1.3 to 1.4 million people work directly in this sector. There are real differences, however, as it's more small companies that are driving the growth, opposed to a large shop floor in the automotive business.

"Where you see the growth happening here is in the number of indirect jobs, the six or seven jobs that get started for every single job – every single time Alisa (Wright) hires somebody, that generates another multiplier between another five to 10 people in the Bloomington economy. That's where to look. So it's a different dynamic than the automotive industry and one that we all have to manage expectations on," Johnson asserts.

Environment for expansion

In the last 10 to 12 years, the infrastructure in Indiana has developed to allow for many small, successful start-ups, McLaren notes.

"So if you're starting a new business, it's sort of like being in a new neighborhood. You can show up and you've got lots of support, people can do just what you've done before, share resources, lots of other opportunities," he asserts. He believes the state is ahead of other Midwestern states in that aspect.

A growth area McLaren has observed is in companies that start with a single idea or molecule, sometimes linked with university research. This trend is partly what necessitated a life sciences practice at Barnes & Thornburg, he explains.

The intellectual property component to life sciences companies is the firm's "bread and butter."

"Essentially that's their single brick of protection that they get out of this and what they're going to market very, very heavily to either a partner or to set that first brick in a foundation in building a medium-sized company," McLaren says. What attracts investment dollars and grants is going to be really strong patent protection, he adds.

The Barnes & Thornburg life sciences practice serves this growing arena of start-ups that need that protection. The group of attorneys and scientists (which includes 13 people with doctorate degrees and strong life sciences backgrounds) provide patent services as well as expertise on industry needs. McLaren, for example, worked in research at Dow AgroSciences and Roche Biosciences in California before pursuing a legal career in Indianapolis.

"A professor or a scientist who has gone off on his own, who is an expert in that field needs others who are experts in the field to take care of those other boxes." What Barnes & Thornburg provides for its life sciences clients are those legal services to protect their idea so it "doesn't get lost in the process," McLaren surmises.

Impact of large companies

Indiana has its share of major industry players: Eli Lilly, Cook, Baxter, Zimmer and Roche, to name a few. These companies not only form a strong base for the state's bioscience sector, but they also serve as breeding ground for entrepreneurs. Johnson cites many of the state's successful contract research organizations were started by former employees of those companies.

For example, Wright worked at three of those companies and started BioConvergence less than five years ago. The biotech and pharmaceutical contract solutions provider has doubled its employees from 20 to 40 in the last year and now serves more than 100 clients in the United States and Asia.

"Indiana is the right place to do the sort of business we're doing, not just because of life sciences but those other things, the logistics, the advanced manufacturing, the IT focus; all of those are critically important to the success of our little 40-person firm," Wright declares.

Likewise, changes within the large companies also can stir up Indiana's life sciences industry. Lilly announced in August it would outsource its laboratory work in Greenfield to Covance Inc.

Johnson notes Lilly's move has two categories of impact that could be very favorable. Lilly is tackling the challenges of the industry by "having a strategic partnering approach that will enable Lilly to leverage the assets that people have and the strengths that it has with other networked assets."

The deal also will allow Lilly to serve as "an anchor tenant

in a facility that will literally service both the pharmaceutical and the biotech business simultaneously from one location." This will attract not only more pharmaceutical work to Indiana, but also a possible influx of biotechnology companies, Johnson adds.

BioConvergence is one company that has benefited from "Lilly's strategic sourcing strategy of how they're going to develop drugs," Wright adds. The company partnered with Lilly in March to begin providing global materials management services for Lilly's products.

Lilly's move toward these types of partnerships could open up more opportunities for small companies and even new start-ups, Wright predicts.

"From a small start-up standpoint, I think that there could be companies that bond from what's created out of this new strategic partnership. BioConvergence is a beneficiary of that happening with large companies like Lilly and Cook, and gaining know-how and then deciding to focus in a specific area to do something that needs to be done differently. I think the same thing could happen in Greenfield where there are other small companies that start up to service this new partnership. And I can't wait to see what those are."



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*Alisa Wright
BioConvergence*

Scientists today and tomorrow

Indiana's talent base has fed the continued growth in bioscience jobs. Already about 6% of the nation's life sciences workforce lives in Indiana, and it's growing at the rate of thousands of jobs coming to the state per year, Johnson states.

That talent isn't centered in Indianapolis; it spans from West Lafayette to Bloomington and Evansville to LaPorte County, he adds.

While the growth in recent years came from entrepreneurs leaving big industry, Johnson warns that supply of innovation will deplete. Initiatives at the K-12 and university levels will help deal with that, he says.

BioCrossroads supports a state science technology and math network developed by universities to help get the K-12 education system prepared for the science jobs of today and tomorrow. Other initiatives that will help



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*Kevin McLaren
Barnes & Thornburg*

include Indiana University’s MBA program designed for life sciences management and Ivy Tech Community College’s efforts that provide biotechnology production training, Johnson cites.

Wright shares her experience: “As one of those people that was able to get a science and engineering degree right here in the state and do everything I’ve been able to do, there are a lot

more kids that could benefit if they really could connect the words life sciences with ‘what does that mean I have to study in high school and what does that mean I have to study in college.’ ”

With so many possible career paths in life sciences, it can overwhelm students who are trying to figure out how to enter the field, she notes. Wright points to the state’s successful involvement with Project Lead the Way, a pre-engineering program that gives middle school and high school students hands-on experience in the field. Indiana has one of the highest levels of involvement of all states, she offers.

Online multimedia program BioWorks U, created by the Indianapolis Private Industry Council, also engages students in opportunities for life sciences careers, she says.

“Hopefully kids will get more informed about what all the opportunities are and also get excited and realize that they don’t have to be an Albert Einstein scientist to play this game,” Wright says. “Most of us are not.”

Economically speaking

As the economic downturn causes struggles in many industries, it’s not reason for panic in the life sciences.

A key component that drives the progress is venture capital financing. Investors are going to be more selective in where that money goes during tough economic times, but Indiana is in a prime position to be first to receive those investments, McLaren asserts.

Study Measures Indiana’s Bioscience Employment

Indiana is one of three states (California and North Carolina are the others; Puerto Rico also qualifies) in the nation with a “significantly above average” employment base in three of four bioscience specializations, according to a Biotechnology Industry Organization (BIO)-Battelle report released in June. In 2006, Indiana employed 19,255 people in drugs and pharmaceuticals; 4,805 workers in agricultural feedstock and chemicals; and 18,023 in medical devices and equipment, the report indicates.

“We were very happy to see that report, and we were not terribly surprised to see that report because we start from such a position of strength,” observes David Johnson, president and CEO of BioCrossroads.

Patrick Kelly, vice president for state government relations for BIO, notes Indiana’s bioscience industry is well established.

The growth and maturity of Indiana’s pharmaceutical and medical device sectors “is something a lot of other states would covet.” Indiana is second only to Minnesota in the medical devices sector, and that is significant, he says.

He notes other states are just starting discussions to attract technology and sciences, and they will face an uphill battle.

“There’s no one state that has the perfect recipe for industry development. Every state has to basically consider its own strengths and weaknesses, and develop a strategy to

address that state’s capacity to make a difference in the life science, bioscience field.”

A sticking point for Johnson, though, is that the report does not mention Indiana’s strong orthopedic industry. Warsaw contains half of the country’s orthopedic sector (\$8 billion in annual revenues), but the city is not ranked, let alone mentioned.

Warsaw is not in a metropolitan statistical area (MSA) and the report ranks the 361 largest MSAs in the country. The orthopedic industry in that area employs as many as 8,000 people, Johnson notes.

Kelly said he would take a look at the data to see if BIO should address how it is collected.

“It was most likely, and I can’t say for sure, captured in our medical device industry sampling for the sector in Indiana,” he says. Data for the report is collected through North American Industry Classification System codes, which should catch employment numbers in Warsaw’s orthopedics sector, he adds.

“Whether Warsaw gets publicized the year after next (the report is released every other year) as a significant player as far as an MSA ranking is concerned, we will take a look at it. If for some reason the data is misrepresentative that we are using, we will address it.”

Resource: Patrick Kelly, BIO, at www.bio.org

“At least in the small molecule, new drug development, new method development (area), we’ve actually not seen a lot (of economic strife). I don’t know that we are insulated by that, but it’s probably protected to that extent,” he muses. “But we do see that, for whatever reason, in tight economic times, that it’s just something that continues to be an attractive investment.”

The desire for quality health care, as well as the high expectations society has for its future, will continue to drive the industry forward, Wright asserts.

Johnson notes outside influences in the economy – such as the aging population and expected increase in health care demand – allow for growth in the life sciences sector.

One way life sciences is different than other segments in the economy is the fact that every one of its businesses is a part of regulated industry, which could have a significant impact, Johnson asserts.

“It’s regulated both in terms of discovery and production by the Food and Drug Administration, and it’s going to be

increasingly regulated in terms of costs by CMS (Centers for Medicare and Medicaid Services), by Medicare and Medicaid and by the whole federal payment system,” he says.

The possibility of large scale health care reform could change how these life sciences companies operate as people want more from their health plans and the employer-based model undergoes potential changes.

“Those pressures are going to come home to roost on the companies that are in this sector, and it’s going to drive them to have to be more efficient,” Johnson relates.

Looking forward

As Indiana’s life sciences industry continues to build, Johnson wants to focus on building the strengths already identified in the state.

“We do want to see an even greater focus on the whole contract service providers, contract research organizations, companies like Alisa’s and Covance and others that are really serving the building of this sector,” he says.

Looking at new ways to be innovative, even applying research and other methods from other industries, will prove beneficial, Wright notes.

“I think the opportunity is incredible, and I think there’s a lot of defining new things that are coming up for life sciences,” she says.

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