



Engaging Indiana

By McKimmie, Kathy

Engagement. If you picture a guy on one knee when you see this word, you're not tuned into the university world. There the word takes on a bigger connotation, a lively connection between the institution and the community, the region, the state: a friendly front door. It's a "we are not an island" type message that schools hope will resonate with those they serve or hope to serve. So once you get over the confusion, it's a pretty good trend to be in.

Technical assistance. Purdue University can probably be credited with formalizing the use of the term in Indiana, with its creation of an office of engagement headed by a vice provost in 2002. Now the word in various forms can be found on just about every university's Web site.

"My responsibility is to help align our resources internally and externally," says Victor L. Lechtenberg, Purdue's vice provost for engagement. "I find places where it makes sense for Purdue to get involved."

He's directly responsible for Purdue's Technical Assistance Program, TAP, which helps 500 businesses a year using faculty and students. Purdue's West Lafayette research park is the largest university-affiliated business incubation complex in the country, and it has aggressively pursued other locations in the state to expand its reach. Satellite technology centers with incubators are open in Indianapolis and Merrillville, and the New Albany center will open in the fall of 2008.

Economic development is another key area of interest, says Lechtenberg, and increasingly that means getting involved with the K-12 issue, along with other universities. In addition to its obvious importance as a workforce issue, he says, "We can't get high octane people to move here if there's not a good place for their kids to go to school."

The engagement initiative has had two major impacts at Purdue, says Lechtenberg. "There's a significant portion of our faculty and staff today that would probably agree that it's an important part of their duties to serve the state of Indiana, not just students. Second, a whole lot more people in the state of Indiana now may be inclined to give Purdue a call."

Life sciences. "Since we're responsible for commercializing IU's inventions, patents and intellectual property, it was a natural fit for us to create an incubator," says Mark Long, president and CEO of the Indiana University Research and Technology Corp. He wears the same titles at the nearly 4-year-old incubator, the Indiana University Emerging Technologies Center (IUETC), located in a rehabbed building on the canal in downtown Indianapolis.

The incubator's focus is strictly life sciences, and it currently houses 19 startups, 70 percent of them growing from licensing arrangements with IU, and seven other tenants, including the Indiana Health Industry Forum and IU's Advancing Indiana office. "We've created over 260 new jobs at an average of \$61,000 a year since the beginning," says Long. The IUETC uses at least a dozen interns each summer and some of IU's grads have landed jobs at the new companies.

Businesses already "graduated" from the incubator include Molecular Kinetics, venture capital firm Spring Mill Venture Partners, The Haelan Group, a health care consulting company that went from four employees to over 60 before moving on, and the Indiana Health Information Exchange, a spin-off of BioCrossroads. Two new startups ready to set up shop are INphoton and Pharmacofotonics, both using imaging technology developed at the IU Medical School.

At 98 percent occupancy, Long says it's time to talk about building another building to increase incubator space within the next 12 to 24 months. A new facility would also include information technology companies, since 30 percent of U.S. intellectual property is IT related. The price tag is \$20 million. "Our decision to expand depends on the state of Indiana. Some states completely build the incubators."

Good ideas, "Good ideas know no geography," says Karl LaPan, CEO of the Northeast Indiana Innovation Center in Fort Wayne. The center, which offers incubator and advisory services, hosted the inaugural Northeast Indiana Technology Showcase last year along with sponsor Indiana University-Purdue University Fort Wayne (IPFW). Ten researchers from Indiana University and Purdue University presented ideas to potential investors. Inventions ranged from materials developed by IU researchers that can help bone implants and bone regeneration to an "electronically controlled continuously variable transmission" from Purdue researchers that could make manufacturing and operating automobiles more cost-efficient. IPFW's Office of Engagement, housed at the Innovation Center, offers access to the university's many centers of excellence from the Center of Excellence in Engineering and the Center for Industrial Innovation and Design to its Small Business Development Center.

Innovation Park, The University of Notre Dame is working with community leaders to create a technology park near its campus, says Michael Edwards, assistant vice president, Office of Research, Graduate School. "Innovation Park is an economic development activity that Project Future and the City of South Bend have the leadership role in. Notre Dame is a partner." The park will include an incubator for startup companies, some commercializing Notre Dame research, others accessing university expertise. Edwards envisions that larger companies with existing research relationships with Notre Dame will want to locate an office at the park to have better access to university resources.

Although more details will come later, the city of South Bend has reported that Innovation Park will occupy 12 acres and include 200,000 square feet of office, laboratory and research space in four buildings south of the Notre Dame campus. The city will seek state approval to include it in a certified technology park area.

Engineering services. Rose-Hulman Ventures was created as a program of Rose-Hulman Institute of Technology, Terre Haute, in 1999, as a technology-based business incubator and product-development center and has received two grants from the Lilly Endowment totaling \$55 million. "Our early model was working with startup companies," says Bill Kline, associate dean for professional experience and associate professor of engineering management. "We wanted to work with medium to large companies as well and the investor model really didn't make sense for them." RHV still has a portfolio of 20 to 25 companies, he says, but the switch last year from a venture investor model to the engineering services model insures the "right educational experience for students."

One of the success stories under its investor model was Suros, an Indianapolis-based company that makes minimally invasive, MRI-guided breast biopsy devices. "We took some of their original concepts and worked on some prototypes that became their main product line now," says Kline. Thirty-nine students and eight staff worked on the project. RHV was one of several venture capital investors of \$19 million in Suros, which helped the company develop quickly. It was acquired last summer by Hologic of Bedford, Mass., for \$240 million.

Under its new model, it reaches out to mature companies, such as GlasCot, Terre Haute, a world

leader in the manufacture of laboratory products and industrial heating and mixing equipment. The company used engineering students to update the electronics in a digital solvent mixer to make it more effective and cheaper to run. The result was an improved process that could be used on several lines, rather than a dedicated line, boosting the company's competitiveness. Other projects are ongoing at Glas-Col, in what Kline describes as a long-term partnership. "We are all about trying to provide educational experiences for students," he says. "Internship experiences with these companies allow students to see what it's like to be an engineer." RHV is currently working with 14 companies within a 100-mile radius of its Terre Haute campus, with 75 students in the program.

Business Accelerator. Also reaching out to mature companies is Butler University, Indianapolis, through its new Business Accelerator program, which aims to spur growth in select central Indiana companies by involving business students and faculty in their development. In the largest-ever grant to the university, Butler received \$22 million from Lilly Endowment for the program that will target 20 to 25 businesses for in-depth and long-term relationships during the five-year grant period ending 2010. Nearly \$4 million will be used for capital improvements at Butler, additional faculty will be hired and \$2 million of the grant is earmarked for investments in the companies selected.

Lawrence A. O'Connor Jr. was named director of the accelerator in August, bringing with him a 37-year background in finance with Bank One Indiana. He is asking the accelerator's advisory panel, Butler trustees, commercial banks, private capital firms and others to make recommendations of companies that would make a good fit for the program. "We want our clients to be referred rather than cold calls as a form of prescreening," says O'Connor. So far he's had more than a dozen referrals, with five attending a two-hour strategic analysis meeting. "Owners and managers are so consumed with running the business. They need to be more strategic-look at markets, Supply chain, management succession." Only one company so far has made it to step two, growth planning, but he expects four to five companies to be fully onboard in 2007.

To be selected, a company must be in business at least five years, have between \$5 million and \$50 million in sales, and be poised for growth. "We want to cast as wide a web as possible to involve as many faculty and students as we can working with real companies with real problems," says O'Connor. A fee for services will be charged. "Everybody values what they pay for. It will be sliding and individually tailored to everybody. We hope when the grant period is over to be self-sustaining."

The Innovative Network. In 2003, the Lilly Endowment awarded nearly \$40 million in grants to Indiana's colleges and universities to develop programs to keep talented graduates in the Hoosier state, stemming the so-called brain drain. Most of the colleges created internship programs with the funds. At Indiana Wesleyan University, Marion, no formal internship existed before receiving its \$1 million grant, which allowed creation of The Innovative Network. "We've had 350 placements through December," says Mike Mendenhall, executive director, nearly double its placement goal for the three and a half year grant period ending in August. "A year ago it was mostly business students. Now it's also music, art and religion students too."

Seventy to 80 employers are offering the internships, many paid, with some students receiving a \$500 stipend from the grant for the period, usually a semester. Mendenhall says Lilly challenged all the colleges and universities to continue successful programs when the grants run out, and Indiana Wesleyan is working on an internal budget proposal to take over funding.

Solution Center. "IUPUI doesn't have the same type of brain drain issues as some other schools," says Teresa Bennett, director of the Solution Center at Indiana University-Purdue University Indianapolis. "Seventy-five to 80 percent of students stay in Indiana." Its most important goal, then, was to help students learn how to enter the small-business market. "That's really Indiana's economy."

Created three years ago with a \$1.7 million Lilly Endowment grant, the center quickly became the front door for business and community connections with campus for internships and job placements through its iupuitalent.net site, and for finding research and researchers from throughout the system, be it the IU Med School, the Kelley School of Business or Purdue's School of Engineering and Technology. Three-fourths of the grant is a venture fund, allowing approved small businesses, not-for-profits and government agencies to fund internships or pay for short-term business assistance on a matching basis.

Indianapolis technical writing firm Brilljent, for example, received a grant to tap a faculty member's expertise in radio frequency identification to help develop training materials for professionals preparing for the RFID certification examination. Profits from the published book will be split 50/50 with IUPUI. Faculty and students also worked with BlueBean, Carmel, through a \$27,000 grant to develop accurate RFID inventory scanning on a conveyor belt and eliminate false readings. The university gets to keep the testing equipment purchased by the company for the project.

The Lilly grant ended in December with a total of 1,100 internships and research projects, says Bennett, but the doors of the Solution Center are still open with university support. Finding additional grant monies to continue the venture fund is the priority now, she says.

Applied research. The University of Southern Indiana, Evansville, also developed a centralized "front door" for the business community to enter with creation of the Center for Applied Research and Economic Development (CARED) within Extended Services in January 2006. Initially funded with a small grant through the Small Business Administration, ongoing support is expected to come from fees, private foundations and requested state legislative appropriations, says director Sue Ellspermann.

"It's one more part of the maturing of USI in the southwest Indiana region," she says. "The business community is appreciative of the bigger role we're playing in economic development." She spent much of the first year making cold calls for the program; now she's busy handling the incoming calls. Thirty projects are underway.

Ellspermann likens CARED to Purdue's Technical Assistance Program, TAP. It offers problem-solving solutions to businesses while giving faculty and students real life projects to tackle. Seniors required to do capstone projects, for instance, can take advantage of CARED to leverage the best opportunities. That might mean working with Mead Johnson, St. Mary's Health System or the Evansville Philharmonic Orchestra. "We've raised the bar another level by pushing the students into higher impact projects in the community. This is their first real project."

Business Fellows. Immersive learning is the cornerstone of Ball State University's strategic plan, says President Jo Ann M. Gora, providing opportunities for students university wide. "Teams of students work with business or communities on projects that promote growth." Through the institute for Digital Fabrication within the Center for Media Design, for example, architecture students are working with Indiana Limestone Fabricators, Spencer, on a "SmartScrap" pilot research program to recycle limestone scraps. "The scrap is cataloged by scanning the pieces and creating a digital inventory," says Gora. "Then a computer uses parametric design software to figure out how the shapes can be combined." The process could prove useful in other industries to recycle what is now waste product.

Another example is through Business Fellows, a Lilly Endowment funded initiative that teams a faculty member and students to tackle an industry problem. Students recently worked with BAA, the management company of the Indianapolis International Airport, to examine how the use of cluster and grid computing techniques would benefit its operations. The result, says Gora, was an enhanced system that can outperform traditional supercomputers at a fraction of the cost.

Immersive learning where students are driving the learning process," and a push toward entrepreneurial thinking are the focus for 21st century education at Ball State, says Gora. "We're helping students see opportunities to solve problems and create wealth or enhanced value."

Biotech degree. Ivy Tech Community College has stepped up to meet the growing needs of Indiana's life science and advanced manufacturing companies. Its 3-year-old biotechnology associates degree program is now offered at six campuses: South Bend, Lafayette, Terre Haute, Indianapolis, Evansville and Bloomington. "In Bloomington, they'll need 1,500 new entry-level technicians over the next five years," says Carol D'Amico, executive vice president.

"In Warsaw it takes on a different industry slant," she continues. "It's mostly focused on machine tooling for orthopedic device manufacturers." Ivy Tech recently opened its Orthopedic and Advanced Manufacturing Training Center in Warsaw, a partnership with the Department of Workforce Development and Zimmer. Students can receive an associate's degree in manufacturing technology and prepare for national certification.

The biotech degree program is "slowly growing," says D'Amico. "It's a very rigorous program. Students out of high school are not prepared at the level they should be in math in science." To prime the pump, she worked with the leaders of the Metropolitan School District of Lawrence Township, Indianapolis, last fall to enroll students in the program in the ninth grade. "They'll spend the last two years at our facility in the biotech program. They'll have a considerable amount of credit towards the degree." They'll also have a goal. Roche is a partner in the effort, she says, and 200 students are now enrolled. "I believe it will serve as a national and statewide program," says D'Amico. "We'll see. The interest in the program by the parents is phenomenal."

Minor in motorsports. Indiana State University filled a need of the growing motorsports industry by offering a minor in motorsports this semester. It taps the expertise of three of its colleges: Business, Technology, and Health and Human Performance, and 32 students are enrolled. There are 1,100 companies statewide involved in motorsports, says Matt Stewart, motorsports director for the Indiana Economic Development Corp., and in central Indiana the industry employs nearly 10,000 workers in over 400 businesses with \$425 million in annual wages.

The industry needs people with a variety of skills, says Randy Peters, motorsports coordinator for the College of Technology and assistant professor of automotive technology management. The industry needs accounting, marketing, information technology, as well as automotive know-how. With the new minor, students will be even more valuable.

Peters also is faculty advisor to Team Sycamore, a student-run business that's acquiring a dragster to race, and running all the behind-the-scenes business operations. Forty-five students with a wide variety of majors are involved. So far they've lined up Hoosier Tire, Chevrolet, GM Performance Parts, ACDelco and GM Protection Plan as sponsors.

Where are the Hulmans, Indiana's renowned racing family, in this hometown university program? "They're being kept abreast of exactly what we're doing," says Peters. "They do want to play a major role. We're working with them on a major 'ask'."

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