



This op-ed piece was published in the South Bend Tribune on April 23, 2009

South Bend and ND poised to lead the way in nanotech



An architectural rendering of the north view of Innovation Park, near the University of Notre Dame. Photo provided by Innovation Park.

By **WILLIAM H. WILSON**

Over the winter a new building has taken shape on ground southeast of the University of Notre Dame campus. It is three stories tall, reaching just high enough to give a view into the future of South Bend.

This building is part of Innovation Park. It's currently the most visible sign of the new knowledge- and technology-based economy emerging in the area. The future begins at MIND, the Midwest Institute for Nanoelectronics Discovery housed on the Notre Dame campus. It progresses through

Innovation Park and then to Ignition Park being prepared for development a few miles southwest in the old Studebaker Corridor.

MIND marked its first anniversary on March 25.

This story begins more than a half century ago as transistors replaced vacuum tubes and then migrated into integrated circuits, the chips that make our electronic world of ever-shrinking cell phones and computers possible. As science makes circuits smaller, more processing power is packed into less space, at less cost and using less energy. This constant reduction that has been behind the technological revolution is nearing its limits and a breakthrough is needed if the pace is to continue. The search for that breakthrough is under way in South Bend. MIND is one of four national centers supported by the semiconductor industry, universities and the government to discover, develop and market the next big thing in making things smaller. Robert Doering, a senior fellow and research strategy manager at Texas Instruments, told the recent annual meeting of Project Future in South Bend that MIND is very much at the center of making this discovery.

"There are a number of possibilities being actively worked across all four centers. The big focus in the next couple of years will be to narrow the field," Doering said. MIND, with its partnership between Notre Dame and South Bend, stands an excellent chance of leading that breakthrough.

While the pace of miniaturization was foreseen, the science and methods were not. Similarly, no one knows how the next technology will unfold or what will grow from it. What's certain, Doering said, is that it is coming in the next couple of years.

Why should we care about issues of science and engineering so new and complex few of us can understand? Look no further than Kosciusko County where the orthopedic device industry has brought growth, wealth, opportunity and thousands of jobs to the area around Warsaw. As a century-old industry adopted new technology and funded research to refine and create new devices and surgical techniques, schools, government and other institutions have had to adapt.



SouthBendTribune.com

Discover what's in it for you

Named **Best News Web site** among Indiana's largest newspapers

Ivy Tech, for example, now has a curriculum designed to train students to work in the laboratories and operate the computerized and high-tech machines used to manufacture artificial knees and hips. Private and public contributions have been raised to prepare for construction of a new Ivy Tech campus there. Success breeds success. The three largest orthopedic manufacturers employ about 5,500 workers, a significant statistic in this economy. Uncounted others work in smaller companies supplying the industry. Employees leave and start their own businesses as suppliers and manufacturers, creating opportunity jobs for new workers to train, gain experience and move up to larger companies or out into their own.

MIND will create similar cluster opportunities here, and area schools, governments, business groups and private organizations are working to make sure the region is ready.

Innovation Park, a 12-acre site under construction across from Notre Dame, is a place where ideas, many developed at the university, may be nurtured into commercial opportunities. Across the city, Ignition Park, in the old Studebaker Corridor, is being readied by the city of South Bend to house 3 million or more square feet of high-tech, office and support space, including the expected construction of a clean room that could be leased by start-up companies as they outgrow their Innovation Park origins. Together they share status as Indiana's only dual campus state-certified technology park.

It will take more than land and buildings to make the region ready for this new economy. Scientists and engineers will be needed to support the research at MIND. Entrepreneurs, business people and investors will be needed to turn ideas into products. We'll be competing against California, Texas and New York for these professionals, and that means South Bend and the region must be a place where they will want to live and raise families.

Community amenities such as bike trails, parks, neighborhoods and arts will take on as much importance as schools in making the region attractive. Public and private spending in those areas will require tough choices in these times of tight budgets. Technically adept workers will be needed to staff labs and manufacturing facilities as innovations are brought into production. Ivy Tech here already is working with Notre Dame and partner universities on curriculum to train and certify these workers. Planning between the city and South Bend schools for the New Tech High School certainly is part of the process.

Notre Dame also will benefit as it grows in reputation as a research institution.

As surely as the old-line manufacturing of plows, wagons, automobiles and recreational vehicles shaped our neighborhoods, communities and institutions, this new knowledge- and innovation-based economy will change them. Our community leaders will need our ideas, our faith and our support as they prepare for and lead us through these changes. While we can't see what the future will be, we can be sure it is coming.

William H. Wilson is the former managing editor of the Elkhart Truth and a South Bend resident. Reprinted by permission of the South Bend Tribune.
