INDUSTRY CLUSTER INITIATIVE:
SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS
FOR NORTHEAST INDIANA

NORTHEAST INDIANA FUND

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SYNOPSIS- TRANSFORMATION NOT ACCELERATION

Northeast Indiana is at a critical juncture in its economic existence. The region's past success in manufacturing and finance is not delivering the economic growth that it delivered in earlier decades. The region is competing against bigger labor markets, with their deeper pools of specialized talent, to maintain a base of employers that will keep college graduates in the region. The levels of investments that communities must make to diversify their economies have jumped dramatically in the last decade.

Northeast Indiana needs an economic development approach that creates new opportunities for overcoming the global and knowledge-based economic trends of the last decade. One element of a strategic initiative is to add more advanced capabilities within its existing concentrations of industry, such as nationally relevant R&D and innovation. Another element is the diversification of the economy into industries now emerging in the global marketplace that offer better than average opportunities for the growth and development of higher wage and higher skill jobs. Enhancing the region's attractiveness for industries that hire college graduates and more skilled blue collar trades is the third element of creating a future economy that offers better job opportunities and a more stable economic base.

Success in achieving these initiatives will not be easy. It will require more than a good marketing plan, or the development of new industrial sites, or traditional workforce training programs. Granted that those are important, but what is ultimately needed to "transform" the regional economy will be bold investments, leadership commitment, willingness to take some major risks, and lots of hard sustained work.

RECOMMENDATIONS TO NORTHEAST INDIANA FOR ITS FUTURE ECONOMIC DEVELOPMENT STRATEGY

BACKGROUND

The economic changes impacting the U.S. have hit Northeast Indiana particularly hard over the past several decades. The region sustained a 17 percent sustained slide in per capita income in the region since 1994, when residents' income approached the national average, to 2008, when it had dropped to 79.5 percent of the national average. Unless new business investment and higher paying jobs are created in the region, this slide will continue.

In December 2009, the ten-county Northeast Indiana region embarked on an unprecedented effort to develop an economic development vision which would reverse this downslide. The effort, *Vision 2020,* started in January 2010 and ended in June with the convocation of the Northeast Indiana Regional Summit attended by over 1,000 community leaders.

The vision for Northeast Indiana is organized around five pillars:

- Competitive Business Climate
- Entrepreneurship
- 21st Century Talent
- Infrastructure
- Quality of Life.

These five pillars encompass the range of activity and investment that needs to occur in order to build a sustainable regional economy.

As part of the process to embrace a vision of sustainable economic growth and development, the Northeast Indiana Fund has pursued an economic development approach that focuses on economic clusters and existing concentrations of

manufacturing, distribution, and the service industry. A number of states and regions around the world have taken a similar cluster approach to their economic development. However, recent research has demonstrated that although many of these cluster studies have done a good job at describing the concentration and interrelationships of industry sectors, they generally have failed as prescriptive strategies to stimulate new cluster activity.

Generally, the existence of clusters involves a structured collaborative interaction among firms within a particular industry, strong supply-chain relationships, and common R&D interests. Although most of Northeast Indiana's industries are not part of strong cluster relationships, significant concentrations of key industries in this region exist that could benefit from increased collaboration and common efforts to support workforce development, improvements in the local and state business climate, and investments in some key areas of R&D.

In 2009, the Defense Cluster, the Food Processing Cluster, and the Medical Devices Cluster in Northeast Indiana were studied and reports were issued. Subsequent to those studies, an ongoing cluster group has been meeting in the Defense Cluster, and several meetings/presentations have been held for the Food Processing Cluster. The Medical Devices Cluster, which is primarily centered in Warsaw, Indiana, has not organized anything within Northeast Indiana.

In 2010, Taimerica Management was engaged to study the Advanced Manufacturing Cluster, the Transportation and Logistics Cluster, and the Financial Services/Insurance Cluster. The primary focus of these studies was to identify workforce development issues that could be more effectively addressed within and between the clusters, and to find business climate issues that needed attention. In addition, Taimerica investigated the potential workforce skills needs and demands among all six clusters, inclusive of the previous three that were studied.

The substantial research, analysis, and recommended strategies summarized in this document are not designed to encompass all of the issues being embraced by the Vision 2020 planning process. Instead, the focus is on those key findings emanating from the interviews with employers in the targeted industries, extensive research related to trends in those industries, and considerable feedback from regional development organizations such as WorkOne Northeast, the Northeast Indiana Fund, the Northeast Indiana Regional Partnership, CRI, the Regional Chamber, and others. It is particularly important to keep this in mind when reading the recommended strategies, since they are not meant to lead to actions for every issue in the Vision 2020 pillars.

RECENT PERFORMANCE OF NORTHEAST INDIANA

According to the Bureau of Economic Analysis, Northeast Indiana has lagged the balance of Indiana in terms of population, employment, and personal income growth. Employment growth has been static in the region since 2001. The Ft. Wayne metro area has performed better than the balance of the region on these measures and has performed as well as Midwest manufacturing centers like Grand Rapids and Kalamazoo. Ft. Wayne's performance, however, has not been as robust as that of Indianapolis or the U.S. as a whole since 2001.

Northeast Indiana has certainly experienced a number of economic challenges. As was stated previously, the standard of living (as measured by the level of per capita income) has declined precipitously since the early 90s. Numerous manufacturing operations have closed or moved operations elsewhere. The loss of corporate headquarters and other office functions in the region has resulted in the decrease in a significant number of white collar jobs during the decade. The region also has a much less robust presence in research and development and professional services than the comparison regions in the Taimerica study, which further limits its opportunities to improve its wage levels and standard of living.

These changes are evident in the labor market. When compared to 2002, the regional economy has seen a hollowing of its executive, professional, and skilled-blue collar workforce. Northeast Indiana as a region in 2009 had about 12,000 fewer jobs requiring a college degree than it did in 2002[1]. The absolute number of jobs requiring a college or advanced degree has declined by 30 percent regionally while growing by 9 percent in the rest of the nation.

Taimerica will summarize its findings regarding the pillars and clusters in the following report, but it is important to first clarify the overall locational strengths and weaknesses of the region. This will provide a better understanding of the opportunities and challenges related to the development of the region on a sustainably growing basis.

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[1] Calculated from BLS statistics for minimum education and training requirements for occupations in the national workforce, applied to the occupational distribution in Northeast Indiana for 2002 and 2009.

LOCATIONAL ADVANTAGES OF NORTHEAST INDIANA FOR BUSINESS DEVELOPMENT

What assets does Northeast Indiana offer to global companies looking to expand production? One element of this project was to assess the overall advantages and disadvantages of the region for new business operations. Taimerica compiled strengths and weakness data on thirty-two communities for this assignment. While the locational importance of much of the data is specific to clusters, some location factors, such as building costs, workforce costs and availability, energy costs, and transportation costs, are important across all of the clusters and target industries within the region.

The following is a synopsis of the **Taimerica findings on these general location factors:**

- Although the region is well-located to serve the national market, it has no unique advantages to do so. Communities within the Chicago-Cleveland-Cincinnati triangle offer similar distribution costs.
- The region has clear advantages over communities in Ohio and Michigan in terms of electric rates for industrial customers.
- The State has a favorable business climate overall and conservative fiscal policies at the State level.
- The region needs more vacant industrial and office space that meets the need of advanced manufacturing operations and higher end back offices. The lack of vacant space is a competitive disadvantage, especially when compared to bigger metro areas which have a bigger inventory of "quality" vacant facilities to offer to expanding companies.
- The Site Certification program is addressing a stated need for more "shovel-ready" sites in the region; the lack thereof is a disadvantage currently.
- On a population basis, Northeast Indiana has more associates degrees in technical fields than any of the comparison locations, except for Montgomery AL.
- Workforce training facilities and programs provide a wide range of worker training opportunities in the region.
- The region has relatively low wage rates, which can be a competitive advantage for attracting new business investment. However, the concern for raising the standard of living for the people of the region negates the promotion of this

"It is difficult to attract highly-educated younger families, young singles, empty nesters, and senior management people to the region"

advantage to some extent, although the currently high unemployment rates dictate an interest in a higher level of job creation for even relatively lower wage jobs, especially for the rural areas.

- Northeast Indiana lacks an academic and corporate R&D capacity, which will be a more important issue in the future for developing research & design functions in the emerging advanced manufacturing industries.
- The Fort Wayne International Airport is an important transportation and logistics asset to the region. It is served by five major commercial airlines for passenger service and has terminals for both UPS and Federal Express that provide excellent small package service. Commercial passenger service is limited in and out of Ft. Wayne relative to competitor regions like Milwaukee and Grand Rapids, which limits its appeal to corporate headquarter operations.
- It is difficult to attract highly-educated younger families, young singles, empty nesters, and senior management people to the region.
- The region has a history and strong reputation in the insurance industry, and has a strong presence of insurance talent at a relatively low cost.
- The region has a favorable state business climate, inclusive of taxation, for insurance companies. The area is outstanding for insurance industry back offices because of well-trained workers, good work ethic, customer-oriented people, access to colleges, and low cost of operation.
- The location of a major north-south Interstate Highway (69) and east-west Interstate (80) through the region is a plus for distribution centers and trucking, but highway access to the region would be significantly improved with an east-west Interstate in the southern half of the region.

"The primary drivers of the regional economy are advanced manufacturing, the defense industry, food processing, transportation & logistics, and insurance"

OPPORTUNITIES FOR THE EXPANSION OF KEY INDUSTRY SECTORS

The primary drivers of the regional economy are advanced manufacturing, the defense industry, food processing, transportation & logistics, and insurance. A big share of the region's economic base is encompassed in these six industry groups. Understanding the needs of companies in these sectors is important for shaping the region's economic

development strategy. The following are the Taimerica findings for each of the target industry sectors, starting with advanced manufacturing.

ADVANCED MANUFACTURING

Advanced Manufacturing is really identified at the company rather than the industry level. Advanced manufacturing firms are distinguished from more traditional operations by the application of new technologies such as computer-controlled tools, sophisticated processes for production and inventory control, and skilled workers who can adjust, calibrate, and increase machinery efficiency rather than simply tend the equipment. Contrary to widely held beliefs, the nature of the manufactured product does not define this industry; instead, it is defined by the technical aspects of the manufacturing process. This definition is not synonymous with "high-tech manufacturing," where the emphasis is on the output of high-tech products.

Innovation is the driving catalyst for growth in advanced manufacturing. According to Deloitte Research, products that represent more than 70 percent of current manufacturing sales will be obsolete in the next five years. In this context, advanced manufacturing is manufacturing that incorporates a rapid transfer of science and technology into its processes and products. The future of manufacturing growth in Northeast Indiana and other regions of the nation lies in adopting these advanced manufacturing practices.

Patent trends in Northeast Indiana — a primary indicator of innovation in manufacturing -- are dramatically different than national trends. The number of patents in the region peaked in 2001 and has fallen by half since that time. The loss of the Navistar operation will have another pronounced affect on patent generation. Some of the national trends, such as the jump in electronics patents, are also apparent in Northeast Indiana. The distribution of patents by technology is much different in the region than the national distribution, with the region having far more patents in mechanical technologies and in "footloose" technologies (those that do not cluster geographically).

Some industries have a preponderance of companies engaged in advanced manufacturing and therefore merit particular analysis. In Northeast Indiana, these industries are Motor Vehicles, Medical Devices, the Defense Industry, the Wire Industry, and the Alternative Energy Equipment Industry.

ADVANCED TECHNOLOGY VEHICLE INDUSTRY

The automotive cluster is the largest of the advanced manufacturing subclusters in Northeast Indiana. Despite recent announcement by Navistar that it was moving its design facility from Allen County to Illinois, the vehicle industry continues to have a strong presence in Northeast Indiana, especially when the recreation vehicle industry is added to the mix. Northeast Indiana had an employment of 7,800 in vehicle assembly and motor vehicle parts in 2009. About twenty percent of this employment is in power train and internal combustion engines and parts. These industries are the ones most threatened by the transition to electric power.

Federal requirements for improved fuel economy will lead to the development of new technologies in internal combustion engines as well as the sale of more hybrid and all-electric vehicles. These new vehicles are now entering the marketplace. Electric vehicles built by General Motors and Nissan started arriving in showrooms in late 2010, and every major auto manufacturer is working on an electric strategy, encouraged by federal funding and tax incentives.[2] Consulting firm IHS Global Insight expects 3 percent of the 90 million cars sold worldwide to be electric by 2020.[3] Other research suggests that electric motors are expected to displace an even higher 8 to 27 percent of the internal combustion powerplants used in the US automotive sector in the next five years.

"The automotive cluster is the largest of the advanced manufacturing subclusters in Northeast Indiana"

The challenge in competing for advantaged technology vehicle investments is the level of incentives needed to generate success. Without a base of existing suppliers in electric propulsion and with a high level of idle assembly capacity, auto companies have wide latitude in choosing where final assembly will be located. Incentive packages have been a critical tool in determining the ultimate location for electric vehicle suppliers.

MEDICAL DEVICES

The strength of the medical devices industry in this region has been the major concentration of orthopedic device companies in the Warsaw area. A number of employees of this "cluster" live in Whitley and Allen counties and commute.

[2] Chattanooga Times FreePress, September 8, 2010, "Alexander praises electric cars at TVA Forum."

[3] Autotopia: http://www.wired.com/autopia/2010/01/market-share-electric-plug-in-hybrids/

Northeast Indiana can support its medical device sector by spending resources to support the efforts of the OrthoWorx initiative in Kosciusko County and to stimulate entrepreneurial enterprises in this industry.

DEFENSE INDUSTRY

The defense cluster in Northeast Indiana consists primarily of companies in the business of providing communications equipment and systems to the Department of Defense. This subcluster is part of the Advanced Manufacturing industry. Allen County is the primary center of this industry in the region. The Taimerica analysis of this industry is primarily focused on the workforce development issues facing this sector.

WIRE INDUSTRY

"Northeast Indiana was one of the pioneers in the coated wire industry owing to patents controlled by the founder of Essex Wire."

Northeast Indiana was one of the pioneers in the coated wire industry owing to patents controlled by the founder of Essex Wire. Wire has become organized as a true cluster with its own set of suppliers and equipment vendors. Northeast Indiana has a major concentration of jobs and plants in steel and copper wire.

The wire industry has declined in employment nationally since 2002. Employment in Northeast Indiana has declined by an even steeper percentage. The drop in employment in Northeast Indiana is in line with national trends in the copper wire portion of the industry, which accounts for 65 percent of the wire industry.

Growth in the steel wire industry will be constrained over the next five years, at least, by the slowdown in the automotive and construction sectors. Demand for copper wire will be aided by infrastructure investments in the smart grid, alternative energy, and by the growth in delivery of hybrid and electric vehicles, both of which require significant amounts of copper wire.

An important research area in the utility industry is the development of high temperature superconducting transmission cable. These cables are made from semiconductors and metal alloys rather than traditional copper. Other wire applications will be found in the advances in a wide range of electric motors, medical devices, etc.

ALTERNATIVE ENERGY EQUIPMENT

The Alternative Energy industry is projected to grow substantially over the next several decades. The part of this industry that best matches the industrial structure of Northeast Indiana appears to be wind power, especially with respect to wind generation parts and equipment. A wind generating station has about 2,000 parts, most of which consist of mechanical components like gears, castings, motors, or machined parts.

The U.S. Department of Energy is forecasting that 20 percent of the nation's electricity will be provided by wind energy in 2020. To meet this target, manufacturing capacity will have to grow for the next eight years. Some of the companies in the advanced manufacturing sector in Northeast Indiana expressed an interest in entering the wind power business as suppliers. Some of these have made acquisitions to acquire technologies or products to serve this growing industry.

"talent supply is the critical resource in the insurance industry, followed by taxation and business climate."

FOOD PROCESSING

Although the food processing industry will continue to grow in the U.S., the mainstream food industry is largely mature with 2 to 4 percent per year growth rates. Within this broad and diverse industry, specialty and organic food products are experiencing the highest rates of growth. Start-ups have fueled much of the growth of these markets.

INSURANCE

Based on feedback from the Northeast Indiana Cluster Steering Committee, this cluster report focused primarily on the sectors of the specialty insurance industry found in Northeast Indiana. This region has had a nationally prominent insurance industry since the 1920's, including the headquarters of major national carriers like Lincoln National Life Insurance. While the cost and supply of office space or the frequency of air passenger service can influence the location of some insurance functions, talent supply is the critical resource in the industry, followed by taxation and business climate.

Northeast Indiana has experienced significant growth in insurance employment since 2005. The insurance sector lost jobs over the decade with the relocation of Lincoln Life's headquarters and Aetna's claim processing center, but recovered some of its employment since 2005. Allen County gained 1,057 jobs in the insurance industry from 2005 to 2008 (the latest data currently available). Almost all of that job growth in the

insurance industry was due to growth in the speciality insurance carriers sector, with the agencies and other insurance-related activities losing employment. Allen County accounted for 90 percent of the employment in the insurance sector (NAICS 524) in 2008 in the region.

TRANSPORTATION AND LOGISTICS

Transportation, distribution, and logistics clearly are vital elements of the region's manufacturing economy, especially in Allen County. Outside of Allen County, regional warehousing and distribution is an important element of the regional economy. Distribution facilities, especially those serving the retail industry, are a likely opportunity for attraction, but many of the jobs created will be moderate wage and requiring minimal skills.

The distinction between production and distribution has become increasingly blurred, with value-added services such as parts production, assembly, or customer service becoming part of an integrated activity at distribution locations. As a result, employment in this sector in the region is likely to become more oriented to supporting existing manufacturing operations with skilled transportation and logistics operatives rather than a major expansion of stand-alone warehousing and distribution facilities.

Although the distribution and logistics cluster is well represented in this region, and is likely to continue to grow, the level of growth in jobs is not very favorable. This industry has lost a significant number of jobs since 2005, which is partly due to the state of the national economy and partly due to the automation and consolidation going on in this industry.

Increasingly, even as wages in transportation and distribution tend to exceed those in general manufacturing, it is proving difficult to recruit the skills need in the more technologically- advanced operations of the distribution and logistics industry.

RECOMMENDATIONS FOR THE FIVE PILLARS OF VISION 2020

As was stated earlier, the Vision 2020 process recently completed and now being implemented, focused on the following five pillars:

- Competitive Business Climate
- Entrepreneurship
- 21st Century Talent
- Infrastructure
- Quality of Life.

Although the Taimerica cluster study did not focus specifically on these pillars, certain conclusions related to the targeted industries, or clusters, did emerge from the investigation. These are shared by pillar.

"If Northeast Indiana is to be successful in achieving its goal of reversing the decline in relative personal income, it must do so by increasing the relative wages and salaries of its resident employees. To accomplish this objective, we must upgrade the quality of the jobs available to our residents.

TOpS Proposal to the Lilly Endowment

21ST CENTURY TALENT PILLAR

The United States has long relied on rising educational attainment in a rapidly growing labor force to help propel our economic growth. Over the last four decades of the 20th century in particular, steady increases in the education level of our labor force contributed very significantly to steady productivity gains, sustained economic growth, and formidable national competitiveness in an increasingly global economy. All those gains are today under threat because of a complex mix of factors that boil down to a single reality—the American workforce is steadily becoming less educated just when better and more diverse educational opportunities are essential for our labor force to maintain its justifiably famous productivity, flexibility and ingenuity.[4] Clearly, the success of Northeast Indiana's economic development efforts rest to a great degree on the transformative development of the region's workforce.

Unfortunately, the skills of many of the workers in Northeast Indiana do not match those required in a workplace driven by technological and managerial change. Additionally, the fast-paced change in the workplace requires workers who are talented as well as skilled. Talent is an indicator of one's capacity to learn, grow, and develop new skills for future use. It also suggests how quickly a person can adapt to new challenges. The

[4] Center for American Progress, 2007, *Lifelong Learning: New Strategies for the Education of Working Adults.*

collective talent of a region's workforce is its prime source of its ability to effectively compete and win in the global marketplace. For that reason, continued funding for incumbent worker training, such as the Talent Initiative, is an important component of the effort to build the region's talent pool.

The advantages and challenges of the Northeast Indiana workforce are shown in the table below:

TALENT ADVANTAGES AND CHALLENGES IN NORTHEAST INDIANA

Advantages		Challenges
Perceived strong work ethic		Manufacturing workforce is aging, a particular issue for tool and die workers
Core competencies in advanced manufacturing in mechanical, electrical, and machinist skills		Level of educational attainment is relatively low
Wide range of worker training opportunities, programs, and facilities		Outside perception is that the region's workforce is highly organized by unions
Talent Initiative to transform and expand the availability of highly skilled workers, technicians, and graduate-level talent		Outmigration is accelerating, especially among college-educated workers
		Demand exceeds supply for industrial and mechanical engineers
		Lack of an insurance-oriented program in higher education in the region

CONCLUSIONS ABOUT TWENTY-FIRST CENTURY TALENT:

The following section condenses our conclusions about the state of twenty-first century talent in Northeast Indiana.

University-Level Talent

- Northeast Indiana needs to expand its talent pool of bachelor's level graduates in electrical, mechanical, industrial, and computer engineering. Occupational statistics for the Advanced Manufacturing competitors suggest that Northeast Indiana has a smaller talent pool and talent pipeline of graduate engineers than these other communities.
- Industrial engineering dominates job postings in all of the region's manufacturing clusters, according to Monster.com. A big share of the job postings nationally and regionally in the first half of 2010 were for college educated talent, such as

industrial and mechanical engineers. The Monster.com database suggests a regional shortage in each. IPFW, Trine University and Indiana Tech have engineering programs in the region but the demand exceeds the supply. Ivy Tech has just launched a Pre-Engineering program which will assist by allowing more Ivy Tech graduates to transition into four-year programs in engineering.

- The defense electronics cluster recruits a significant number of college educated workers, which means that the college educated talent pipeline is an important location issue. Among the credentials listed frequently by defense companies in Northeast Indiana in the Monster.com database, almost all required a degree in engineering or computer science.

- Northeast Indiana also has a smaller proportion of college graduates in technical disciplines than the defense cluster comparison locations that Taimerica examined. The future needs of the defense cluster suggest that a larger pipeline of computer science and electrical engineering talent will be advantageous to keeping the cluster viable in Northeast Indiana.

- The IPFW Centers of Systems Engineering and Wireless Communication could be an important catalyst to providing needed talent in the future.

- The insurance industry has a high proportion of workers with college degrees. Many of the strategic occupations that support the operations of the insurance industry require at least a bachelor's degree. Educational attainment is of more importance in this cluster than in the other Northeast Indiana clusters.

- Students that major in insurance or actuarial science are more important in the talent pipeline for the insurance industry than other degrees. Insurance companies in Northeast Indiana struggle to fill mid-level management positions. Having a pool of talent with bachelor's degrees in insurance and actuarial science would improve the region's competitive position.

Advanced Manufacturing & Advanced Vehicle Talent

- Most employers in the nation and the region are looking for slightly to moderately experienced manufacturing workers rather than those with more than seven years experience.
- Skilled blue collar trades have grown faster in the region than nationally, reflecting the strong manufacturing base. Like most manufacturing areas in the U.S., highly skilled workers are difficult to find.
- Northeast Indiana has a cost advantage for advanced manufacturing talent compared to comparison communities in the Midwest and South, but the region lacks the breadth and depth of manufacturing talent found in Milwaukee, Grand Rapids, or Indianapolis.
- Advanced manufacturers agreed that the work ethic in Northeast Indiana is strong.
- The experience of WorkOne Northeast and those local employers who were interviewed indicates a stronger need for workers with credentials such as NIMS certifications rather than for 2 year degrees in advanced manufacturing skills such as tool and die.
- Industrial engineers, maintenance workers, machinists, and tool and die workers are among the most common skill sets in the vehicle industry today. Northeast Indiana has some of the highest concentrations of these skill sets of any of the automotive comparison locations. However, this supply could be diminished as up to 40 percent of the workers in some occupations in the auto cluster are expected to retire during the next decade.

Medical Device & Defense Cluster Talent

- Monsters.com indicated that the region was lacking in job demand in the medical device industry. Job postings have been in decline nationally and in the region (including Kosciusko County) for the past several years.
- Northeast Indiana has a higher concentration of skills in the communications equipment industry than the competitor communities.

Wire Industry Talent

- Most of the production workers in the industry are in the skilled blue collar trades, such as tool and die.
- The region appears to have a critical mass of talent and technology to support the growth of this industry. The wire industry is expected to grow substantially over the next decade with the adoption of hybrid and all-electric vehicles, the deployment of the smart grid, and the growth in wind power development worldwide.

Food Industry Talent

- Monsters.com indicated that the Northeast Indiana region was lacking in job demand in the food industry. However, jobs in food processing have been growing more in this region than in the U.S.
- The need for a higher skilled workforce in food processing will be driven by factors such as a greater emphasis on food safety practices and an increasing use of automation (most especially including computer-controlled equipment).

Transportation and Logistics Talent

- The analysis of resumes and job postings by Monster.com indicated a deficit of talent in the transportation and distribution cluster. The most commonly posted jobs in this cluster in the first half of 2010 were for truck drivers and supervisors.
- The region needs a larger pool of talent with Class A licenses and Hazmat Endorsements. The transportation and logistics cluster is one of the few in the region that is looking to hire applicants with a high school diploma.

Recommended Strategies for Twenty-first Century Talent:

1. The regional workforce needs strong Career Path programs to strengthen enrollment in training/retraining opportunities. A particular need exists for skills in advanced manufacturing that are diminishing due to retirement and changes in the industry. For example, tool and die workers that were trained previously under GE's apprenticeship program are now reaching retirement age. Other needed skills sets include welders, machinists, industrial mechanics, and electricians. The training needs from replacement of aging workers is going to require a substantial increase in training resources.
2. Training in manufacturing skills should be organized around a career pathway approach where workers begin by learning core manufacturing, technology and quality skills. After workers have mastered a core of common skills they can specialize through within particular certifications and degrees.
3. Northeast Indiana needs to develop a deeper pool of college-trained engineering talent to meet the future skill needs of the advanced manufacturing companies.
4. Northeast Indiana needs to focus its resources toward retraining workers with the credentials in demand among advanced manufacturing companies. Training should be designed around nationally recognized credentials, such as NIMS certification, rather than around academic credentials such as Associate degrees.
5. A successful cluster effort is currently underway in the defense-related industries. The work plan for the cluster should include efforts to transform the Centers of Excellence in Systems Engineering and Wireless Communication into nationally prominent centers in these two disciplines, and to promote them as such.
6. The health of the regional insurance industry depends on the pool of college educated graduates produced in the region. Since insurance companies like to hire college students on internship before offering a permanent position, a pool of college undergraduates majoring in insurance would be a help in maintaining the industry in the region.

Additional Strategies for Twenty-first Century Talent:

7. Competitor communities with the most vibrant insurance clusters were Lincoln NE and Des Moines IA. Each of these communities had an undergraduate program in actuarial science. The insurance executives that were interviewed for this project suggested that a strong local program in actuarial science would enhance the region's competitive position for insurance companies.
8. A need exists to enhance collaboration among K-12 schools, higher education institutions, and businesses. Relationships should be developed between the schools and businesses to expose students to career opportunities. Its intent would be to develop/expand Work-Based Learning programs and internships in high school and college, teach businesses how to use these internships effectively and profitably, and promote this program.
9. More internship and on-the-job training opportunities need to be developed.
10. A stronger focus on STEM – science, technology, engineering, math – is needed in the Pre-K-12 schools.
11. Young talent should be recruited to the region, focused initially on graduates from Indiana colleges/universities.
12. Workforce development activity should be linked to the identified target industries or clusters, focusing on demand-driven skills as well as baseline skills.
13. A stronger consortium of post-secondary education and training institutions led by WorkOne Northeast should be convened and students should be more aggressively recruited into the Advanced Manufacturing and Logistics programs at Ivy Tech, and investment into and access to these programs should be expanded. The consortium needs to develop articulation agreements that allow students to move seamlessly from one institution to another during their education.
14. Particular concerns to be addressed in the wire industry are replacing the high level workforce skills that are being lost, and encouraging R&D in emerging technologies related to this industry.
15. The focus of the Northeast Indiana Regional Partnership, WorkOne Northeast Indiana, and the Local Economic Development Organizations should be on recruiting a skilled workforce for the Transportation and Logistics industry, which does not eliminate the need to continue to market to attract new distribution and logistics firms to the region.

ENTREPRENEURSHIP PILLAR

Many communities cannot count on business recruitment or outside investment to lift them up. They will have to do it themselves by building on the skills and talent already existing in their community. This homegrown strategy would be based to a significant extent on supporting local entrepreneurs---nurturing people with dreams and a plan to start new businesses or to expand existing businesses. Research has found a strong correlation between entrepreneurship and long-term regional employment growth. Northeast Indiana's advantages and challenges with entrepreneurship are below:

ENTREPRENEURSHIP ADVANTAGES AND CHALLENGES FOR NORTHEAST INDIANA

Advantages		Challenges
The Northeast Indiana Innovation Center (NIIC) formed in the late 90s to foster high-tech entrepreneurship		Indiana does not attract federally funded R&D commensurate with its share of national population or economic activity
A significant history of entrepreneurial activity in the region		Northeast Indiana lacks strong research institutions. Patents from these institutions often seed entrepreneurial ventures and graduating students provide a critical workforce.
At the center of considerable industrial activity with efforts being made to be more competitive		Many laid-off workers lack advanced technology skills needed by entrepreneurial endeavors
		Need to find an R&D niche that would lead to significant business investment in the region

Entrepreneurship Development Conclusions:

- Northeast Indiana in participating in a Great Lakes wide initiative led by Jumpstart and funded by an Economic Development Administration grant and private foundations. This will enable the Northeast Indiana Fund to examine entrepreneurial interrelationships, and connect entrepreneurs and investors by significantly enhancing JumpStart's IdeaCrossing technology to facilitate deal flow by matching investors, business mentors, and service providers.
- A strong interest in creating more entrepreneurial activity appears to exist among a number of business leaders.
- Northeast Indiana is well positioned geographically to take advantage of the growth in the advanced technology vehicle industry through entrepreneurial activity. The region contains and is surrounded by vehicle manufacturing plants

and their suppliers, electric battery manufacturers in Michigan and Ohio, and a skilled workforce at both the production and the design/development level. Furthermore, Indiana is a significant state in the research, development, and manufacturing of next-generation batteries and electric drive vehicles.

- Other communities in the U.S. have accelerated their growth in the motor vehicle industry by organizing collaborative R&D efforts between their universities and the motor vehicle industry, such as Greenville SC, Columbus OH, and Southwest Michigan.
- Regional research support in the area of superconducting wire would be of benefit to Northeast Indiana. Superconductive wire could prove to be a niche for Northeast Indiana, if the region can find a way to position itself as a pioneer in the commercialization of superconductive wire for the transmission of electricity.

Recommended Strategies in Entrepreneurship Development:

1. Northeast Indiana could benefit from an applied R&D in some of the emerging technologies in the automotive industry. The institute needs to be scaled to serve the R&D needs of a national or global, rather than local or regional, marketplace. This strategy will involve additional research to determine the specific niche being recommended.
2. Northeast Indiana has the assets to build a more advanced and globally relevant wire industry that provides cutting edge products in new applications. The region can work with national trade associations in the wire industry and not have to compete against a large number of other communities, as it would have to do in medicine or biotech. The creation of a Center of Excellence for this industry in Northeast Indiana could stimulate the expansion of this industry through business attraction, business retention, and entrepreneurial development.
3. Northeast Indiana region can best support its medical device sector by spending resources to support the efforts of OrthoWorx in Kosciusko County, to continue to focus marketing resources on attracting new employers in the medical device field, and to stimulate entrepreneurial enterprises in this industry.
4. Provide a comprehensive portfolio of regional services to support entrepreneurs in all stages of development. Programs such as NIIC and others need adequate resources to provide services throughout the region.
5. Given that startups have fueled much of the growth in the high growth segments of food processing, it could be concluded that a significant investment in an R&D institution could be a key catalyst for new activity. An example of a successful endeavor to this end is found in the Nebraska food processing center. However, it would not appear that the potential for developing such a center in Northeast Indiana is very high, given the region's lack of a major food science program in a research university.
6. One of the foci of NEIRP could be on the attraction/recruitment of serial entrepreneurs.

COMPETITIVE BUSINESS CLIMATE PILLAR

A region's business climate impacts considerably its ability to attract and retain business investment and jobs. It consists of state and local taxes, availability of appropriate incentives, state and local permitting and regulatory procedures, labor laws and right-to-work status, the "friendliness" of state and local policies toward business, environmental regulations and policies, and perception of the area by business investors. Northeast Indiana's advantages and challenges with respect to business climate are below:

COMPETITIVE BUSINESS CLIMATE ADVANTAGES AND CHALLENGES		
Advantages		**Challenges**
Competitive tax rates overall (according to the Tax Foundation, Indiana ranked 12th in the nation in its business tax climate)		Need for a reduction in local property taxes on machinery and equipment for attracting advanced manufacturing business investment
Major electric utilities offer competitive rates for industrial customers		Perception in the business community outside the region that labor-management relations are unfavorable due to the presence of unions
No significant overall business climate issues at the state level inhibiting competition		Increase in funding for incumbent worker training/retraining
		Lack of a Renewable Portfolio Standard in Indiana that limits potential for alternative energy investments
		Inconsistent and sometimes restrictive permitting and regulatory processes across the region at the county level

Conclusions on Business Climate

- A reduction in Indiana's local property taxes on machinery and equipment would help the attraction of firms desiring to invest in high technology operations. However, regions that are successful with advanced manufacturing cannot expect to significantly grow manufacturing payrolls with their existing industry base. Advanced manufacturing, by design, squeezes jobs out of manufacturing in favor of higher productivity through advanced technology applications. This creates a problem for accessing Indiana training programs that are geared to employment growth.
- Despite the lingering perception in the outside business community that labor-management relations in Northeast Indiana are negative due to the presence of unions, all of the employers interviewed by Taimerica in this study indicated a very positive relationship between management and labor.

Recommended Competitive Business Climate Strategies:

1. Northeast Indiana leaders should work with their legislative delegation to revise the property tax treatment of machinery and equipment in manufacturing by eliminating the taxation of personal property owned by manufacturers. Property tax policy on machinery and equipment affects the level of investment in advanced manufacturing in the state. Before moving forward with this recommendation, Indiana's approach to taxing machinery and equipment should be compared to competitor states to ascertain the actual differences that exist.
2. The Regional Chamber should lobby the legislature to revise the statutes and regulations governing the spending of funds for upgrade training, such as incumbent worker training and the skills enhancement fund. Advanced manufacturing companies, for example, are unlikely to create new jobs as they expand but still need to have resources for upgrade training just to remain viable in the global marketplace. The region's workforce is aging, which will greatly impact the availability of the skills that many in this group possess. The sunset of the Indiana Training Acceleration Fund is exacerbating this incumbent training problem, and the upgrade training funds from the Talent Initiative in Northeast Indiana are only temporary.
3. Given the lack of a Renewable Portfolio Standard in Indiana, Northeast Indiana can still focus on helping its manufacturing industry become Tier I and II suppliers to the OEMs in the alternative energy industry.
4. Companies in the region told us that the speed of permitting is becoming more important as a site selection issue. Northeast Indiana should establish a consistent and streamlined permitting process throughout the region that is based on competitive standards.
5. Develop a legislative agenda that aligns with the Northeast Indiana Vision and target industry clusters.

INFRASTRUCTURE PILLAR

Infrastructure can include many aspects of a region. In Northeast Indiana, the focus is on transportation modes, public utilities, energy, and real estate. The economic future of a region can be significantly impeded if the infrastructure is not adequate to support New Economy activity. Northeast Indiana's advantages and challenges in infrastructure are below:

INFRASTRUCTURE ADVANTAGES AND CHALLENGES FOR NORTHEAST INDIANA		
Advantages		**Challenges**
The region is served by I-69 (north/south) and I-80/90 (east-west)		The need for more fully-developed project-ready industrial and business sites
Major rail freight mainlines cross the region		The lack of an east-west Interstate Highway serving the southern 2/3 of the region
		Railroad cooperation for switching evidently needs improvement
		Lack of intermodal facilities

Recommended Infrastructure Strategies:

1. Increase the availability of business and industrial sites throughout the region by continuing the site certification program. The attraction and expansion of distribution in the region is partially dependent on the region's ability to develop industrial parks attractive to distribution operations in the I-69 and I-80/90 corridor communities. Distribution facilities generally require the same industrial site considerations as manufacturing, although they tend to generate more truck traffic and therefore need excellent highway access. Additionally, larger warehousing operations may need rail service for inbound container traffic. The Fund and Partnership should work with the rural counties as needed to find funding for developing feasible sites. Revenue sharing should be explored where appropriate as a possible way to fund the development of larger sites that have a multi-county impact.
2. Rail service between NS and CSX appears to be constrained, with no switching agreement between them. The short line rail line, CGE, which interconnects with CSX, apparently refuses to accept cars routed on NS to destinations served by CSX, based on feedback from major distributors in the region. Northeast Indiana should retain consultants to evaluate the improvements to its rail infrastructure needed to meet future freight needs of its manufacturing sector. Many communities are suffering from capacity constraints in their rail yards and line haul assets and rail capacity can provide a competitive advantage. The consultants should also look at local switching agreements to insure that rail users have competitive rates to all major rail destinations.
3. The region has an opportunity to attract a private training provider provided the infrastructure for driver training becomes available. The region should investigate the Navistar test track as an option for a venue for providing driver training.

QUALITY OF LIFE PILLAR

Every community and region has a unique sense of place that is defined to a great extent by its quality of life. The "livability" of a place not only attracts new residents and businesses, but it also helps retain them. Broadly speaking, a *livable* community or region recognizes its own unique identity and places a high value on the planning processes that help manage growth and change to maintain and enhance its community character.

This Taimerica study did not focus on Quality of Life issues as such. Therefore, there are no conclusions or recommendations for this pillar. The Vision 2020 Action Team for this pillar is in the process of developing a set of strategies for advancing the quality of life for this region.

CONCLUSIONS AND RECOMMENDATIONS BEYOND THE PILLARS

Not everything that was discovered as a result of this study fits neatly into one of the five pillars. Therefore, this section is a catch-all for a number of important conclusions and recommended strategies.

Conclusions:

- Northeast Indiana has the advantage of a central location for serving the nation's major markets, but it lacks a recognizable regional identity in national and international markets.
- The region strongly benefits from the quality and activity of the regional marketing organization, namely NEIRP.
- Targeting the attraction, retention, and entrepreneurial development activity of the region's development organizations to those economic sectors with the greatest potential for growth should lead to positive results in future economic activity.
- Professional, scientific, and technical jobs in the region have grown at a slower rate compared with many industrial areas in the U.S.
- One factor that could accelerate growth in Northeast Indiana is the attraction of the operations of third party administrators. Third party administration is one area where the Northeast Indiana region that appears to offer considerable potential. This is also the part of insurance that is growing the fastest, due to the significant outsourcing of a variety of insurance operations.

- Although the locational advantages of Northeast Indiana to serve the national market are good, this region has no apparent unique locational advantages that give it an edge over a number of other communities in this part of the U.S. However, the region is likely to attract some distribution operations, as is evidenced by recent announcements, but not at the level that would warrant a major marketing or cluster effort.
- It would appear that the best opportunities for regional companies in the alternative energy field are to provide equipment or parts to established companies like Vestas, GE, or Siemens that are just now establishing manufacturing and assembly plants in the U.S. A number of companies interviewed in the region felt that the alternative energy sector provides a significant long-term opportunity for growth.

Recommended Strategies

1. Develop an identity for Northeast Indiana that will enhance its marketing nationally and internationally.
2. Assist companies in NE Indiana to obtain international certifications required by Alternative Energy OEM's. Alternative Energy companies from Europe are looking for suppliers who meet the ICEX standards that have been adopted for wind power equipment. Companies must demonstrate their ability to meet these standards before they can qualify to work with the wind power integrators that develop the equipment now being deployed in the nation's wind farms.
3. Growth in the existing food processing industrial base, the recruitment of new employers, and the encouragement of startup operations should be fostered. The region has a number of advantages for the growth of food processing, including the presence of agricultural commodities and proximity to the national consumer market.
4. Northeast Indiana could benefit from a major investment in an R&D industry-based institution focused on a potential niche that could become a catalyst for stimulating some of the emerging technologies in the automotive industry. The institute needs to be scaled to serve the R&D needs of a national or global, rather than local or regional, marketplace. This strategy will involve additional research to determine the specific niche being recommended.
5. Northeast Indiana has the assets to build a more advanced and globally relevant wire industry. The creation of a Center of Excellence for this industry in Northeast Indiana could stimulate the expansion of this industry. The region can work with national trade associations in the wire industry and not have to compete against a large number of other communities, as it would have to do in medicine or biotech.
6. The NEIRP should further investigate the potential for developing more employment through cluster initiatives in specialty insurance. While general insurance lines are unlikely to benefit from a cluster approach, the approach could be beneficial in specialty insurance. Northeast Indiana has the top management talent and expertise to grow the insurance industry through acquisition, but companies in the industry would need to find a venture capital type of vehicle for assembling the financial resources to execute the strategy.

OVERALL CONCLUSIONS

Northeast Indiana is at a crossroads. While manufacturing production has been a platform for creating a high standard of living in the region for the last century, the current century provides new challenges and opportunities. Manufacturing is still a viable economic platform for the future but the research, engineering, and design elements of the manufacturing process are likely to provide a growing share of the jobs and prosperity in manufacturing. Northeast Indiana needs to build its competitive advantage in manufacturing around tools and institutions that position it to do more of the skilled work and innovation in manufacturing.

Insurance and business services are also going to remain viable platforms for creating jobs and lifting the region's standard of living. Northeast Indiana needs to enhance its competitive advantage for maintaining and growing these sectors over the next ten years.

Transportation and logistics are critical infrastructure that support the region's competitive position in the manufacturing sector, as well as provide a significant share of the region's jobs. The region can lift its standard of living and reduce its unemployment rate by providing more trained workers to companies in the transportation and logistics cluster. This cluster provides the best opportunity to create significant employment for workers that lack a college education. Capacity constraints in transportation infrastructure and prepared sites for distribution facilities could hamstring these efforts if not resolved.

Northeast Indiana can expect a rebound in its economic fortunes as the domestic auto industry recovers from its worst recession ever. Opportunities now appearing in emerging industries like alternative energy equipment and the smart grid could provide new platforms for accelerating economic development and lifting the standard of living in the Northeast Indiana region. These opportunities will be highly sought after by competitors throughout the globe. Economic developers in Northeast Indiana need to be prepared with the incentives, training programs, R&D institutions, and development infrastructure that will allow it to leapfrog the competition.

The recommended strategies made in this document provide a blueprint for making that leap. They will make a difference in the region's future but only if they are implemented

at the scale and scope needed to attain world class status. The kind of bold, outrageous thinking that was part of the Vision 2020 process endorsed by regional leaders is needed to regain the region's historic standing in the national and global economy.

To reiterate what was stated earlier in this report:

Northeast Indiana is at a critical time in its economic existence. The region's past success in manufacturing and finance is not delivering the economic growth that it delivered in earlier decades. The region is competing against bigger labor markets, with their deeper pools of specialized talent, to maintain a base of employers that will keep college graduates in the region. The levels of investments that communities must make to diversify their economies have jumped dramatically in the last decade.

Northeast Indiana needs an economic development approach that creates new opportunities for overcoming the global and knowledge-based economic trends of the last decade. One element of a strategic initiative is to add more advanced capabilities within its existing concentrations of industry, such as nationally relevant R&D and innovation. Another element is the diversification of the economy into industries now emerging in the global marketplace that offer better than average opportunities for the growth and development of higher wage and higher skill jobs. Enhancing the region's attractiveness for industries that hire college graduates and more skilled blue collar trades is the third element of creating a future economy that offers better job opportunities and a more stable economic base.

Success in achieving these initiatives will not be easy. It will require more than a good marketing plan, or the development of new industrial sites, or traditional workforce training programs. Granted that those are important, but what is ultimately needed to "transform" the regional economy will be bold investments, leadership commitment, willingness to take some major risks, and lots of hard sustained work.