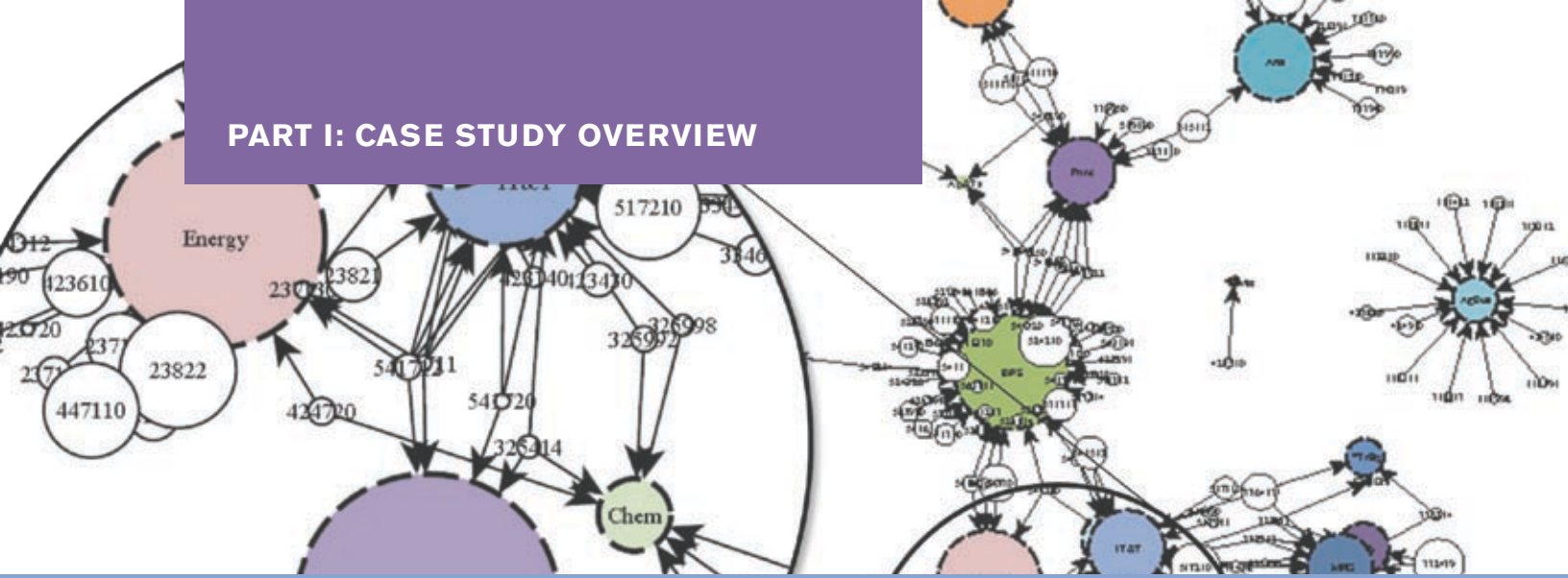


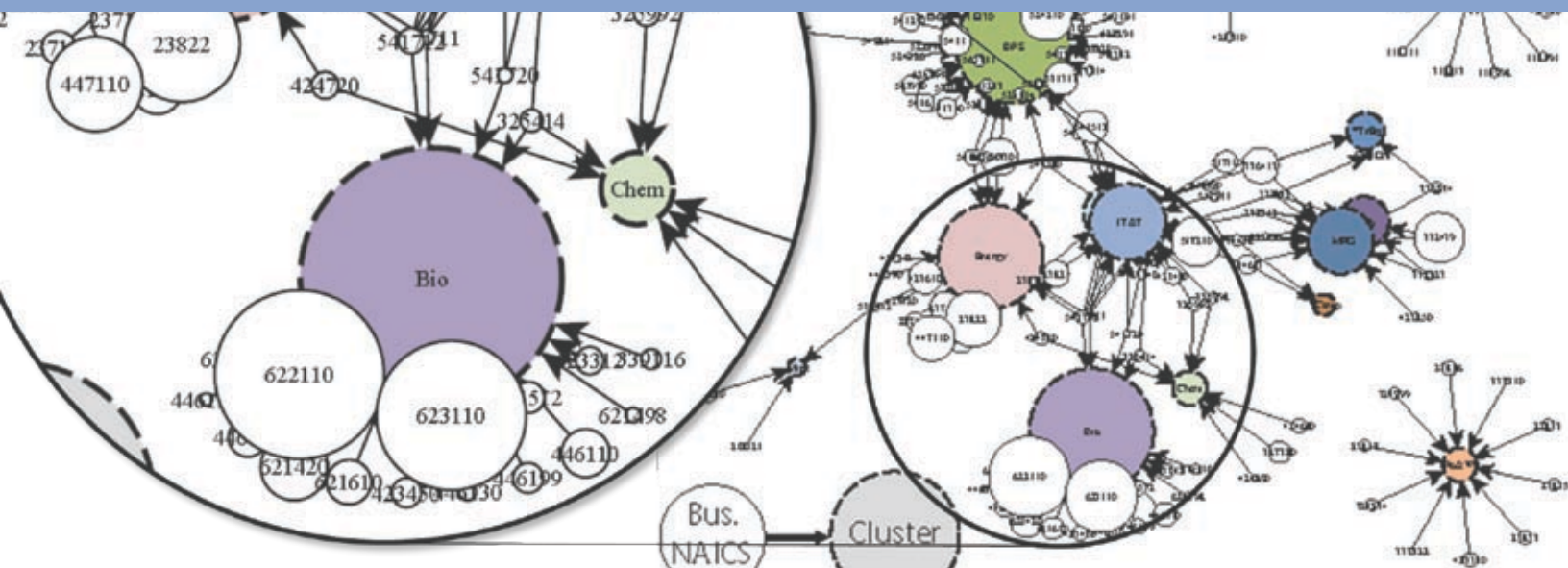
PART I: CASE STUDY OVERVIEW



September 2011

Growing Rural Innovation-Based Economies:

Kansas Opportunity Innovation Network



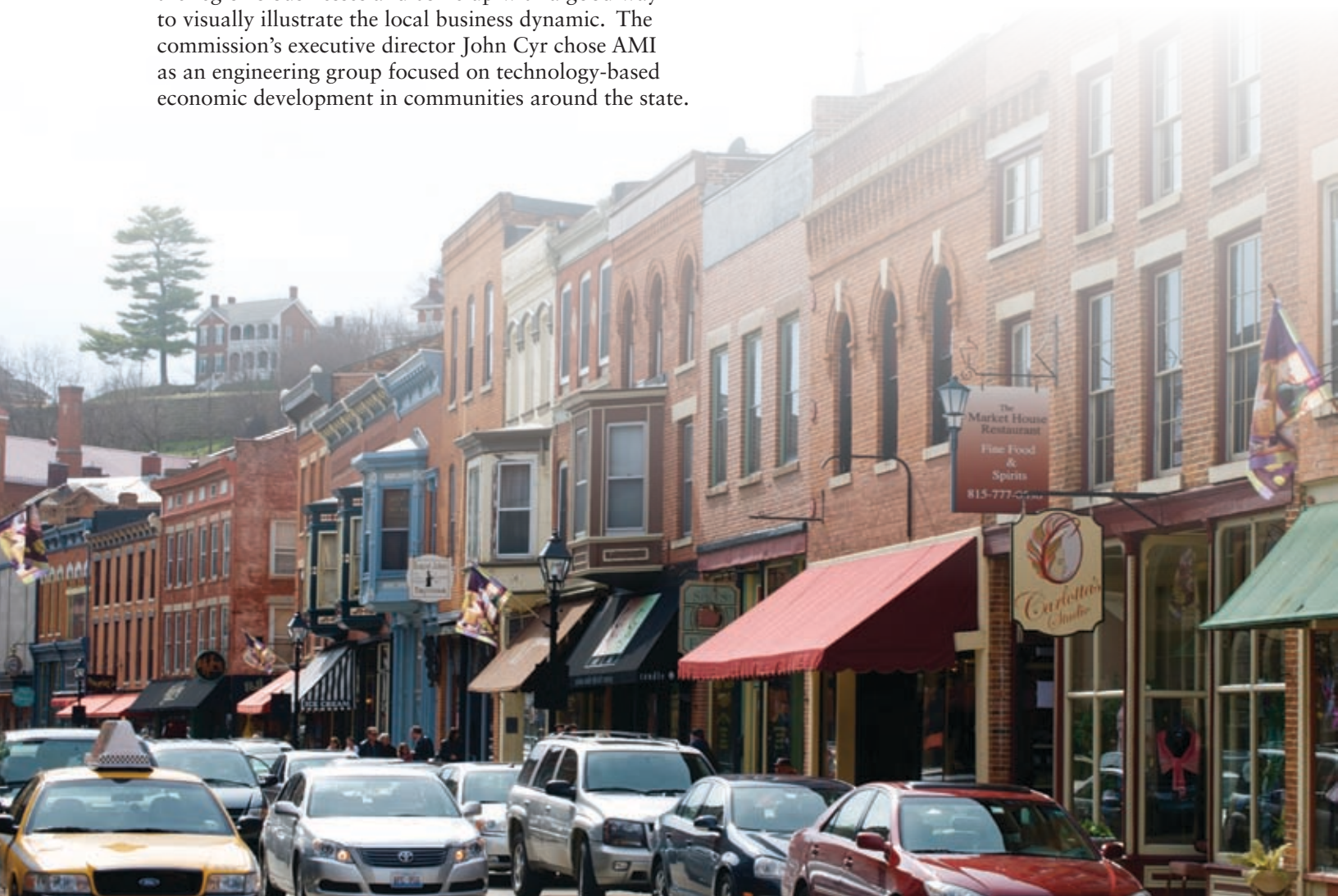
PART I: CASE STUDY OVERVIEW

This case study describes work being done by an Economic Development Administration-designated University Center, Economic Development Districts and other partners to increase the number of globally competitive products and services produced in Kansas rural communities, presenting detailed analysis and steps undertaken by economic development partners. For more detailed steps conducted through the process, see the accompanying special report.

In 2007, the North Central Regional Planning Commission (NCRPC) went to the Advanced Manufacturing Institute at Kansas State University with a project proposal. Would AMI identify the industry clusters operating in the 19-county region? Harvard economist Michael Porter had originated the idea of clusters a few years earlier as geographic concentrations of interconnected companies, suppliers, and service providers in a particular field.¹ But he had talked about clusters mainly in urban areas.

NCRPC also wanted AMI to identify linkages among the region's businesses and come up with a good way to visually illustrate the local business dynamic. The commission's executive director John Cyr chose AMI as an engineering group focused on technology-based economic development in communities around the state.

Cyr and Jeff Tucker, AMI associate director, found they had many common interests. Tucker started to talk to other economic development districts around the state, looking at where similar projects might be developed to identify the business sector and existing regional networks. Gradually, the initial idea developed into the Kansas Opportunity Innovation Network (KOIN), a three-year project funded with a grant from the U.S. Economic Development Administration (EDA) that appears to offer potential as a model for other regions.



KOIN's goal is to "increase the number of globally competitive innovative products and services produced in rural and/or distressed Kansas communities and regions."² Says AMI's Tucker, "It's about enabling and equipping rural regions on a global basis—not letting the geographic isolation of rural communities prevent them from getting economic opportunities."

KOIN works to match the needs and assets of Kansas businesses with opportunities in Kansas, the rest of the country, and the world. The program starts at the most basic level by changing the definition of "regional." Fortunately for rural areas with limited resources in their immediate boundaries, regional connectivity no longer has to be based solely on geography but can be centered on issues or industries.

In the same way, regions' physical boundaries should not limit what economic development districts (EDDs) do to serve those regions. Businesses in rural areas may need to venture outside their region for ideas, services, workers and capital. KOIN is working to evaluate the needs and capabilities of businesses in several rural and distressed regions in Kansas, map their assets in a large interactive database, and connect the companies with others inside or outside the state that can fulfill their needs or use their services.

Bringing Together Business, Technology, and Economic Development

For most of its existence, AMI has been an engineering organization. AMI was designated as an EDA University Center in 2004, and since then has expanded its economic development functions to include conducting business planning, industrial design, and early stage technology development. The goal was to bring together business and technology development to market the state's technological feasibility and economic viability. When AMI began doing that, Tucker found that companies often did not have a professional network. AMI sought to address that gap to promote economic growth.

In this case, the partnership among AMI, as an EDA University Center, and regional EDDs, is very effective, as they are all working together to leverage resources and create new synergies to promote economic growth by assisting businesses to develop a network. AMI's work in business planning and early stage technology development is of great interest to NCRPC and other EDDs, as they work to bring new economic opportunities to rural and distressed parts of the state. Now KOIN works with three EDDs across Kansas.

Economic Development Districts

Economic Development Districts (EDDs) are multi-county regions designated and funded by the U.S. Department of Commerce's Economic Development Administration (EDA). They are responsible for conducting regional strategic planning by developing the Comprehensive Economic Development Strategy (CEDDS), which is produced every five years and updated annually by EDDs to stimulate and guide the economic development efforts of a community or region according to its unique needs. EDDs are typically regional, serving multiple counties and municipalities to address shared economic and community development challenges and opportunities, regional employment patterns, transportation networks, common industry or business clusters, and natural and infrastructure assets. Through their CEDDS, EDDs bring together regional partners around economic development planning, and identify regional goals and objectives, and prioritize projects that may be eligible for financial assistance from EDA. EDDs also provide technical and other forms of assistance to their service areas.

The nation's 380 EDDs are often administered by a regional development organization (RDO). The term RDO is used to describe multi-jurisdictional planning and development organizations that are governed primarily by local government-elected officials who are focused on strengthening local governments, communities and economies through regional solutions, partnerships and strategies. These public entities are often known locally as: councils of government, area development districts, economic development districts, local development districts, planning and development districts, planning and development commissions, regional development commissions, regional planning commissions or regional councils.

EDA University Centers

EDA's University Center (UC) program supports over 50 institutions to make the resources of universities available to the economic development community, particularly in regions of chronic and acute economic distress. The UCs, which EDA considers long-term partners in economic development, are required to devote the majority of their funding to respond to technical assistance requests originating from organizations located in the economically distressed portions of their service regions. UCs conduct a variety of activities in support of economic development, including targeted commercialization of research, workforce development, and business counseling services, as well as helping local organizations with conducting preliminary feasibility studies and analyzing data.

Source: Economic Development Administration, <http://www.eda.gov>.

Regional Analysis - Where to Start?

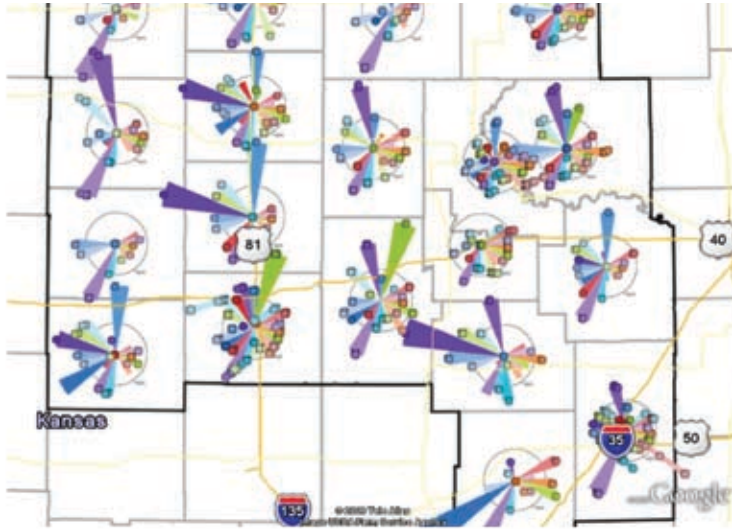


Image courtesy of AMI

AMI.NCRPC.ORG

AMI and the regional planning commissions are all grantees of the U.S. Economic Development Administration. But KOIN includes a broader array of participants that do not traditionally work together. AMI and the EDDs have worked with private sector businesses for some time. The Global Wind Network, a nonprofit group, partners with AMI to match potential wind energy suppliers in Kansas and other states with large energy companies based abroad. AMI and the Kansas Department of Commerce are working together on projects to bring wind energy companies to the state. The Rural Policy Research Institute, a national research and analysis group based at the University of Missouri, is another partner. Such collaboration is especially important in rural areas, where assets may be spread over a large area.

Tucker acknowledges there are occasional barriers. The university, economic development organizations, state entities, and private companies have to recognize they have different goals, and focus on common interests—in this case, economic development. To find common cause, says Patricia Clark, Kansas state director for the U.S. Department of Agriculture Rural Development, “communities have to begin to transcend their traditional rivalries and competitiveness with respect to the idea that each community has to have the same of everything. If we are unwilling to work with our neighboring communities or shift how we have always thought of ourselves, we are giving up our future.”

LQ Bursts as a Measure of Regions Clusters

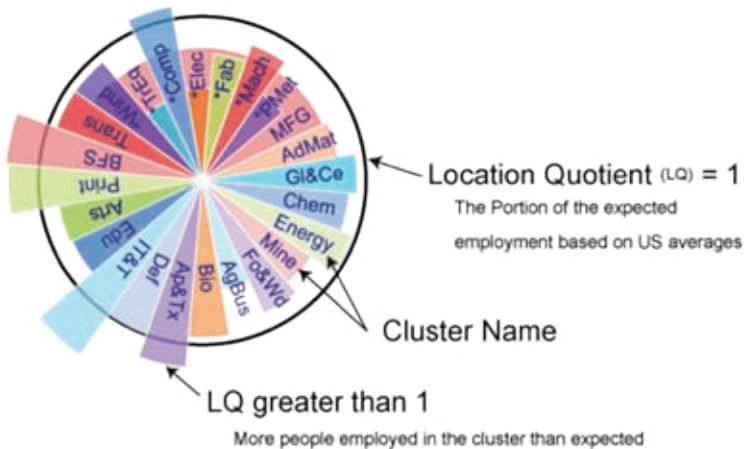


Image courtesy of AMI

$$LQ = \frac{\left(\frac{\text{Employment in Industry (j) in Region}}{\text{Total employment in region}} \right)}{\left(\frac{\text{Employment in industry (j) in US}}{\text{Total employment in US}} \right)}$$

A New Kind of Network

Creating networks is a big part of what KOIN does. What’s innovative is that networks can be based not just on geography, but on innovations in technology or manufacturing. “A network approach helps minimize the geographic isolation that rural businesses may experience. It creates a critical mass to explore a certain market that individual businesses might not be able to do on their own,” says Clark. “A network amplifies the opportunities while it also spreads the risks.”

“Because we span many industries, we can connect companies,” says AMI’s Tucker. One example: DT Search and Design, a small Missouri company, approached Kansas State about developing a comprehensive energy/odor management system for large scale cattle feeding operations. The company was referred to AMI. When AMI and DT interviewed potential customers, they found a limited market for that idea but a related need for nutrient recovery from wastewater, to meet EPA regulations. AMI connected the company with Kansas Livestock Association and subsidiary KLA Environmental Services, Inc. KLA was working on a similar project, and eventually DT and KLA created a joint venture, Kansas Environmental

AMI Phosphorus Recovery Technology Development

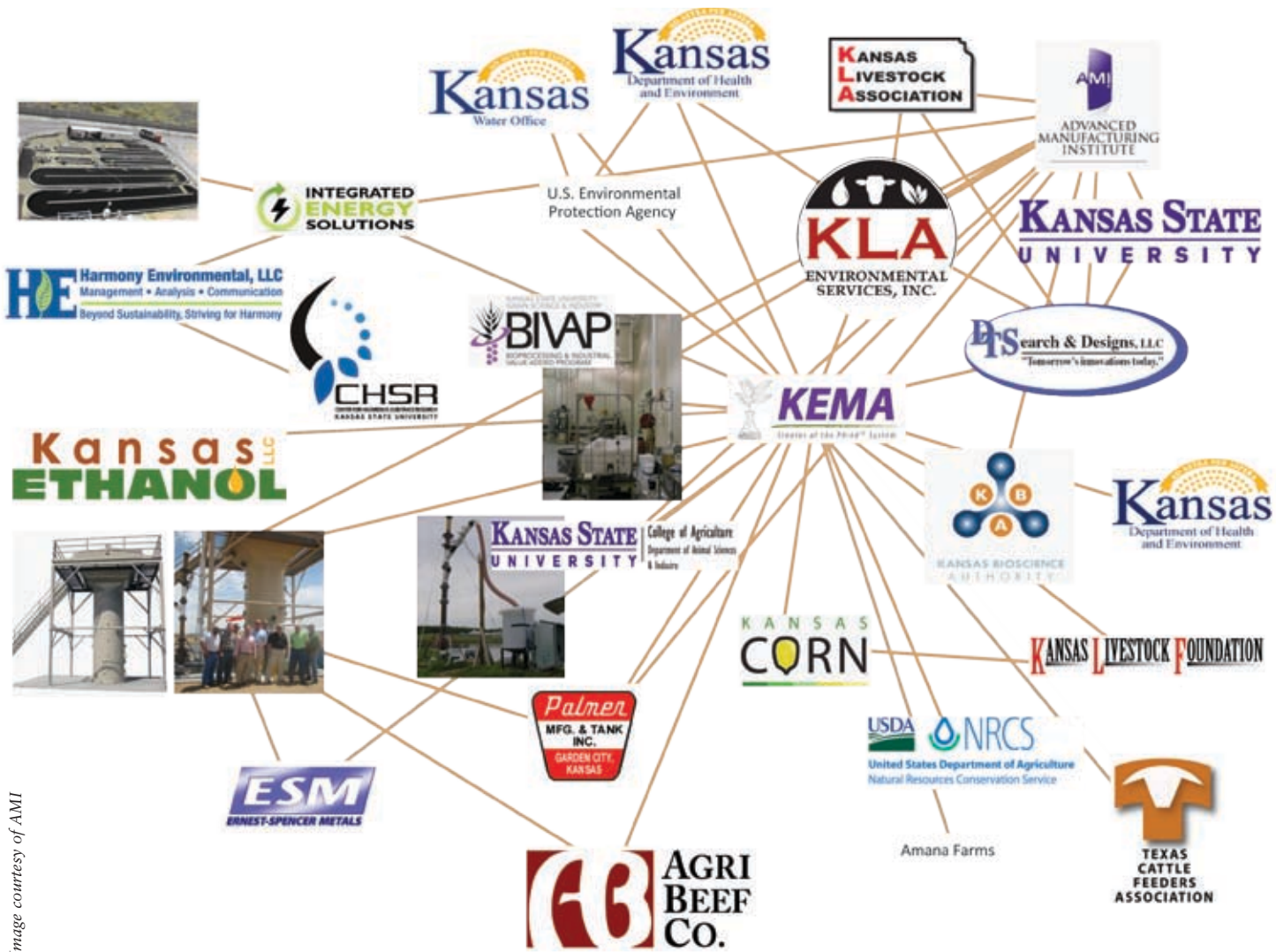


Image courtesy of AMI

Management Associates. Through networking by AMI and KLA, the new company found several public and private funders and sources of technical expertise. KOIN’s work with social networking analysis (SNA) is more complicated than what is usually thought of as online social networking. “We strongly believe that successful entrepreneurs aren’t necessarily smarter; they’re just better connected,” says Tucker. “Connections to markets, ideas, and capital are what make people successful.”

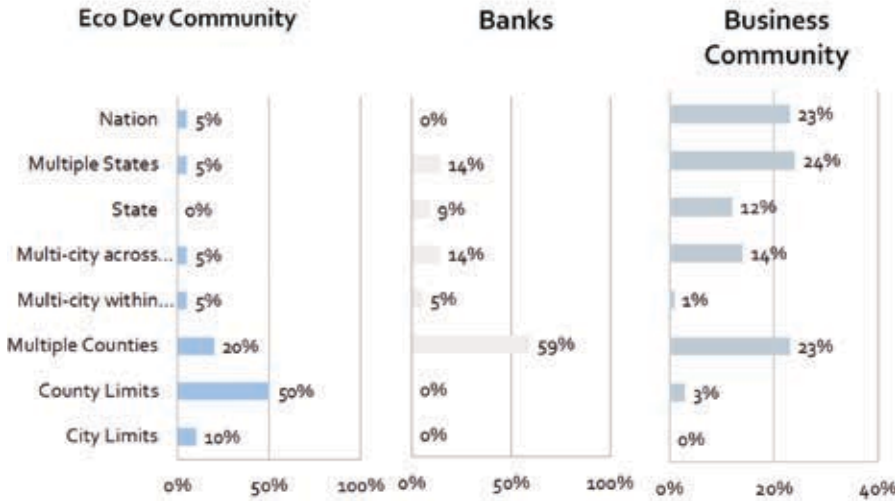
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Jeff Tucker, AMI associate director

In their social networks, people have strong ties with people they know well and weak ties with a broader network of people they come into contact with periodically, such as business associates. In an urban area, those contacts occur frequently. In a smaller community, one’s daily social network is not as diversified. But being part of a broad social network can help an entrepreneur know who to contact to move an idea to the next stage.

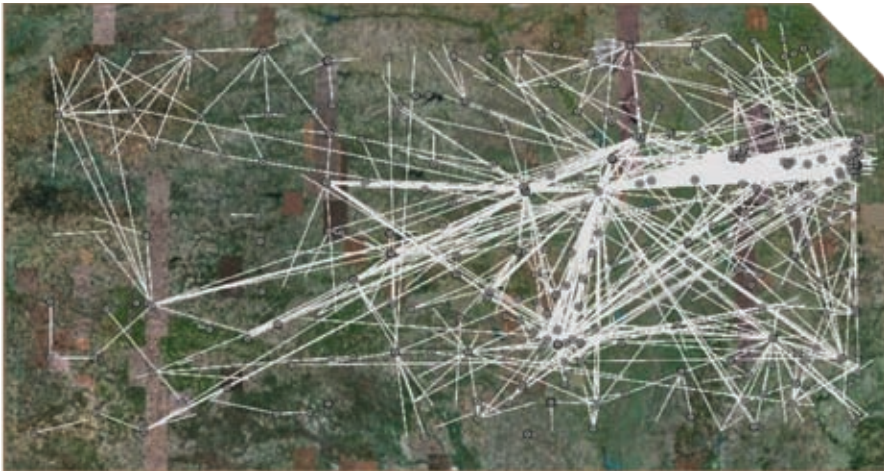
AMI can develop an SNA map for an organization that shows as many levels of connection as desired—like LinkedIn for an organization. It shows the connections of each person or group in the organization. A graphic representation helps to identify where the connections are, and to see missing links. For instance, there may be two county officials who do not appear to be working together. But an SNA map could show they are connected through either a personal or professional network.

What is Region?



AMI asked economic developers, banks, and businesses how they define their region, receiving widely different responses.

Branch Map of Banks Headquartered in Kansas



Regional cooperation is clearly necessary if rural areas are to succeed in attracting new business development. When AMI asked three different groups—economic development officials in cities and counties, banks, and businesses—how they define their region, they all had different answers. For economic development officials, it was their city or county. Banks said it was wherever they have branches, and businesses said it was wherever they have customers. Policy makers are looking only at political boundaries, but businesses have a much broader view.

AMI has taken this a step further by geographically mapping the connections within a county or economic development district. “This map was to help the group understand how their regions communicate with each

other. The visualization created by the map makes it easy to see where connections exist and potential isolated clusters,” said Manveen Saini, AMI’s economic development project manager. “We could say, ‘Your region is broader than you think.’”

Asset Mapping and Business Clusters

Another way KOIN marshals the economic and entrepreneurial assets of rural and distressed areas of the state is through asset mapping. Economic development officials have been listing their regions’ assets for a long time, but that usually means only capital assets, human resources, and financial assets. KOIN’s asset map digs

Landscape Perspective



Image courtesy of AMI

Access to Business Detail

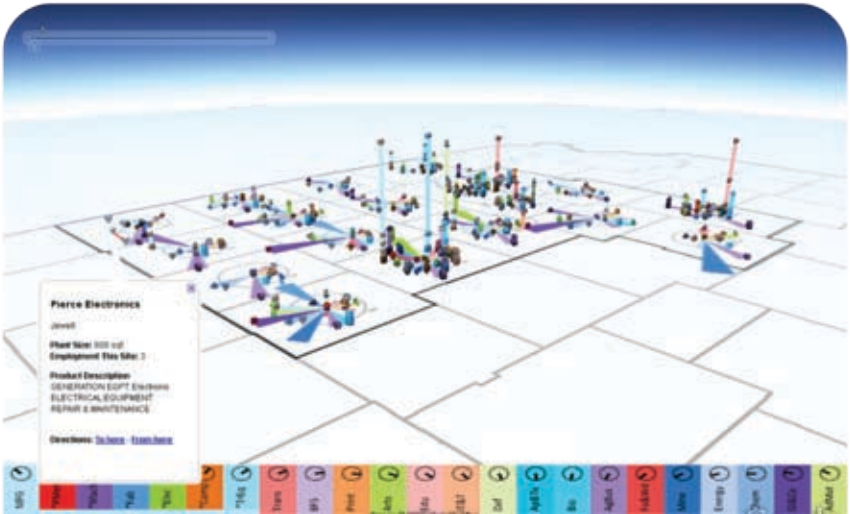


Image courtesy of AMI



deeper. Instead of just listing the products a company makes, the asset map focuses on a company’s capabilities and needs. A regional asset map would include not only companies, but population, education, qualified workforce, work skills, and research and development technologies.

Where KOIN’s asset maps become distinctive is in their connection to business clusters. As an economic development strategy, business clusters have until now been applied mainly in urban areas. KOIN’s work marks an unusual effort to apply clusters to rural communities. That has traditionally been difficult because rural areas lack the critical mass of urban communities. The aim is to find a way to recreate the benefits of urban clusters—volume of economic opportunity, diversity of interaction,

proximity to markets, and density of expertise—in rural communities.

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What’s new about AMI’s asset maps is that they show a region’s assets in geographic form. They can show an industry cluster in a particular area, with all the companies in a supply chain for farm cooperatives, for instance. The interactive map allows a viewer to

Connectedness - Mapping Industry Connections Using SNA Methods

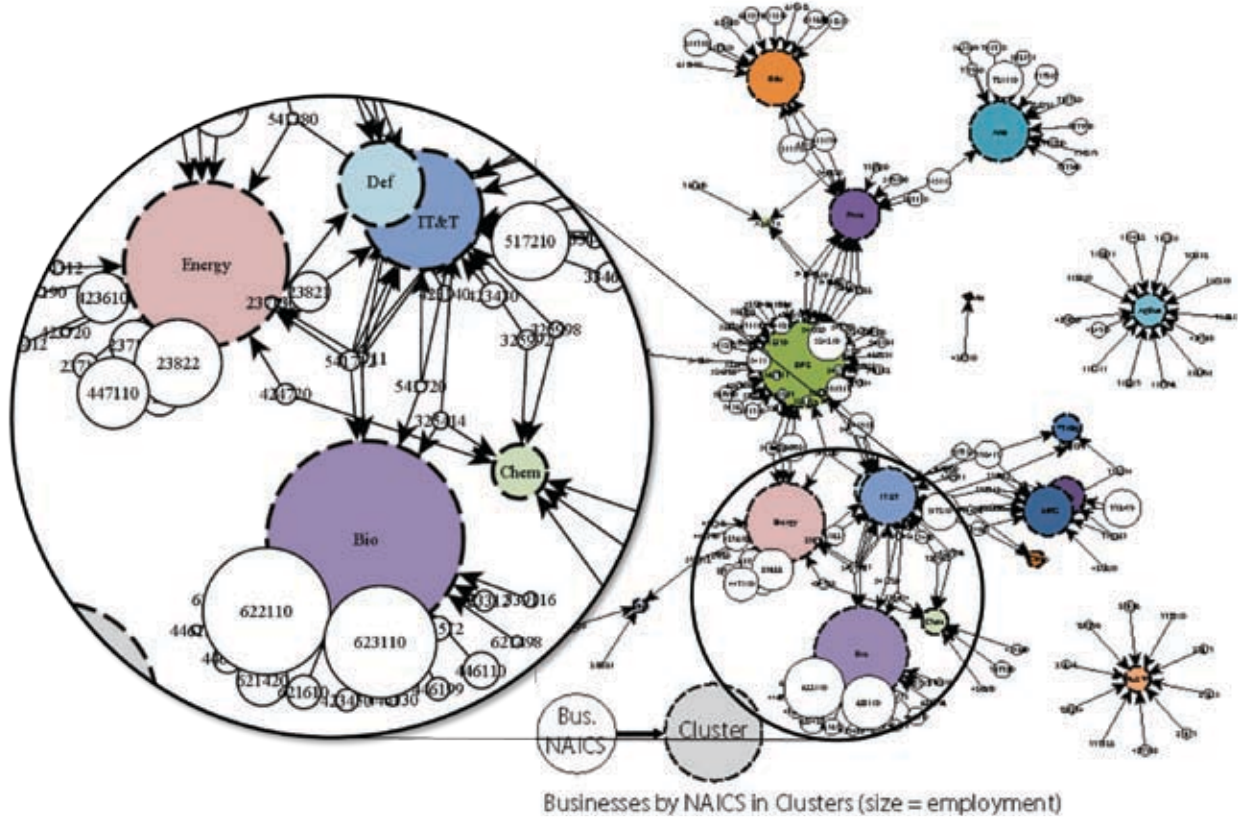


Image courtesy of AMI

Traded Clusters in the North Central Region

Percent Change in Employment, Location Quotient, and Employment for All 19 Counties in 2006

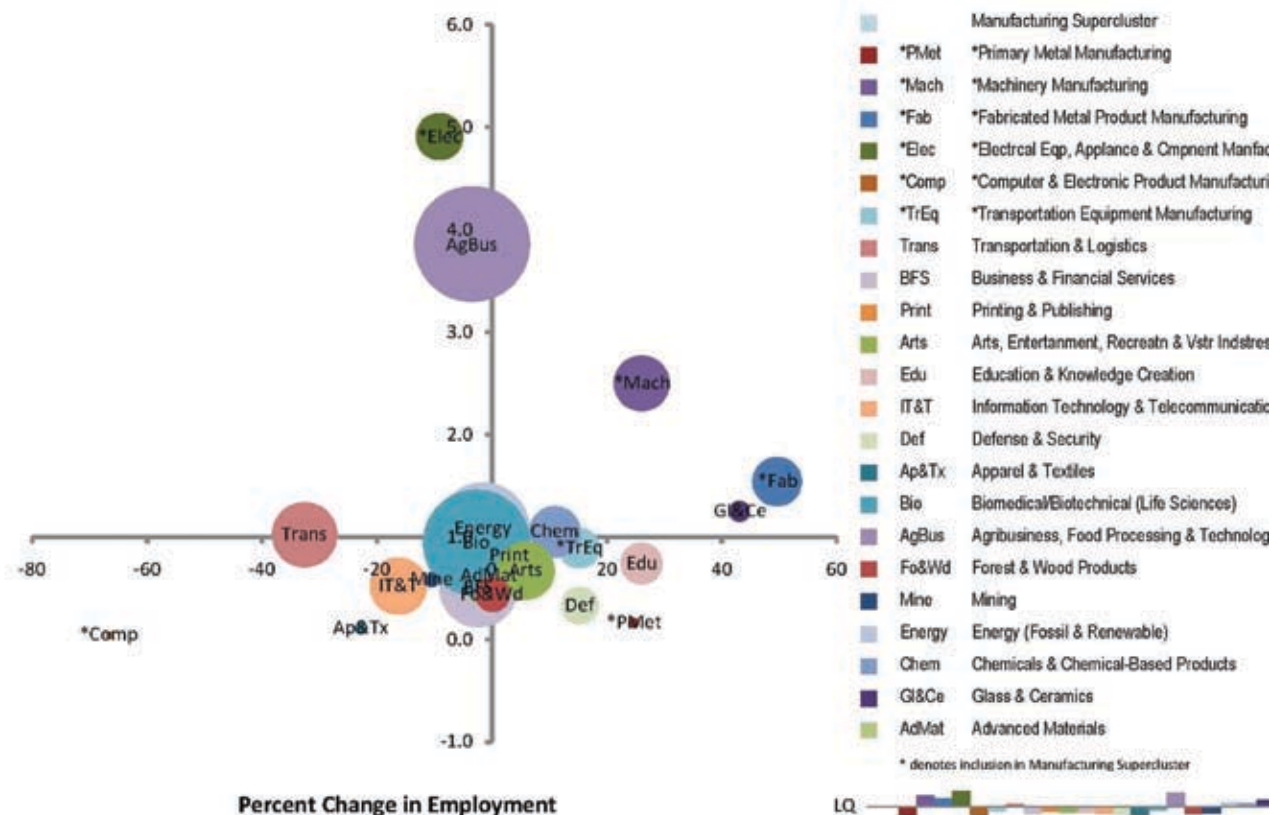


Image courtesy of AMI

get a pop-up for each company showing its location, ownership, and product. Or an asset map could use elevation to show employment, making it clear at a glance where the area's major employment centers are.

Others in the Kansas's economic development community find the asset maps a useful tool. "If you are an economic development person or want to expand your business in a specific location, you can see the assets that are there," says Stan Ahlerich, executive director of the Governor's Council of Economic Advisors. "As a business owner, you can see how you can leverage your business by discovering other companies or individuals in nearby counties working on a similar idea."

Asset maps can also be helpful in attracting new business to a region. "If a new business is looking at our area, the first question they ask is, where are certain assets within the region?" says Bob Wetmore, associate director of Great Plains Development, Inc., the EDD for Southwest

Kansas. "If we had a good asset map, we could answer easily." Wetmore's group is trying to anticipate the needs of the wind turbine industry that it hopes to bring to the area. Wind companies typically like to use just-in-time delivery. "What kind of subcontractors do you need to do that?" says Wetmore. Outside companies may have questions ranging from the locations of stainless steel fabricators and shippers to the type of restaurants and housing facilities in the area.

AMI conducted a pilot regional analysis for the North Central Regional Planning Commission in Beloit, Kansas, looking at clusters of industries that have interconnected products, services, capabilities, and needs. The EDD was looking for potential areas of cooperation. For instance, the eastern part of the region includes Fort Riley and the state university. "What industries exist that support those employers?" says the EDD's Executive Director Doug McKinney. "Are we using them to the fullest?"

AMI Wind Industry Manufacturing Supply Chain Initiative

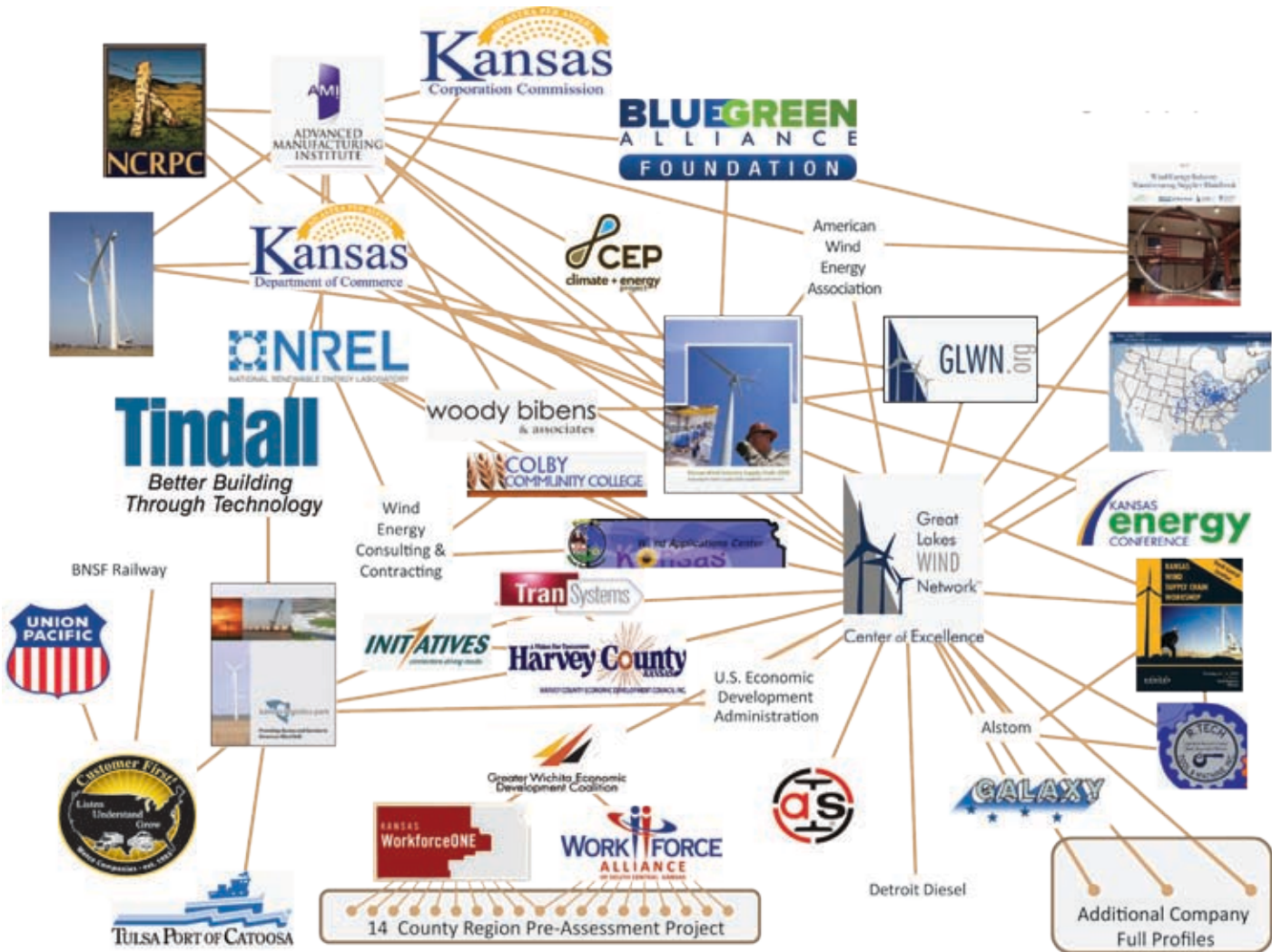


Image courtesy of AMI



AMI's map identified which companies are in the region, and which could work together. The next phase is trying to get them to work together, McKinney says. For instance, should there continue to be 16 full-service hospitals in 19 counties? Alternatively, they could cooperate and find a way to complement each others' services rather than duplicate them.

Kansas's Natural Asset: Wind Energy

Connecting to the wind power supply chain holds great potential for Kansas businesses. The Great Plains have very high wind power, and large manufacturers are looking at building wind farms in the state. Siemens has already broken ground on a wind turbine equipment plant. Because of the logistics of huge wind turbines, the large manufacturers may prefer to locate close to the wind farms to cut transportation costs. How can small local companies connect to the out-of-state manufacturers?

KOIN is playing a big role here. The process started in 2009 when Cyr, then with the North Central Kansas EDD, sought help from AMI because companies in his

region wanted to connect to the wind energy business. AMI talked to the Kansas Department of Commerce and through a survey found companies in Kansas did not know much about the wind industry. That's when AMI contacted the Great Lakes Wind Network (now known as the Global Wind Network, or GLWN). AMI became GLWN's first Center of Excellence, and GLWN now trains AMI staff on the technology and business development of the wind turbine industry. AMI in turn talks to small rural companies in Kansas to see whether they might be suited to be a wind energy supplier.

GLWN works with both wind turbine manufacturers and smaller local suppliers. "We help [suppliers] evaluate how well their capabilities match up with what is typically required by the wind industry," says GLWN Executive Director Ed Weston. "The wind industry has particular cost and quality requirements."

It can be hard for a company to adapt to the new industry's requirements, Weston adds. The wind industry and the aircraft industry, which thrived in Kansas for many years, have a lot in common—both are highly engineered and extremely quality-oriented. But wind, being a global industry, has much more price competition and works on a bigger scale. Most of the

big players are based abroad. So it is helpful for small, rural companies to receive advice from GLWN and connect to the industry through their regional GLWN Center of Excellence at AMI. “We are excited to have such capable partners like AMI that enable us to project our services and capabilities into a primary wind state and continue to cultivate new potential suppliers for the large industry OEMs [original equipment manufacturers] coming onshore,” says Weston.

More partnerships: The Kansas Department of Commerce is putting on a conference with AMI and GLWN in Wichita in August 2011 for Kansas construction companies interested in learning more about the wind industry. Some areas will be hard for nonspecialized companies to crack, such as crane work with wind towers, says Keith Myers, director of training services for the Department of Commerce. “But our contractors are experienced with road construction, trenching, putting down electrical cable.”

All business starts at the local level, and with Siemens building a wind turbine equipment plant in Hutchinson, Kansas, South Central Kansas EDD Executive Director Bill Bolin wanted to find out how suppliers in his district could work with Siemens. He asked AMI to come and interview 150 local companies to see if they would be suited to what Siemens needs. In the second phase, AMI will conduct a detailed analysis of the local companies’ assets—officially known as a Wind Capabilities Profile Assessment—to present to Siemens and other wind equipment manufacturers considering locating there.

Kansas Logistics Park

When is an industrial park not an industrial park? When it reinvents itself as a logistics park that includes a manufacturing accelerator. Here’s what that means in the case of the Kansas Logistics Park in Newton. The project, like much in KOIN, is the result of a multi-pronged partnership: AMI, the Harvey County Economic Development Council, Wichita Technology Corporation, Kansas Technology Enterprise Corp., the City of Newton, and economic development representatives from eight counties.³

The project is evaluating the feasibility of having a rural manufacturing accelerator on the site. A manufacturing accelerator—usually located in urban areas, where it may be called a manufacturing incubator—is a facility

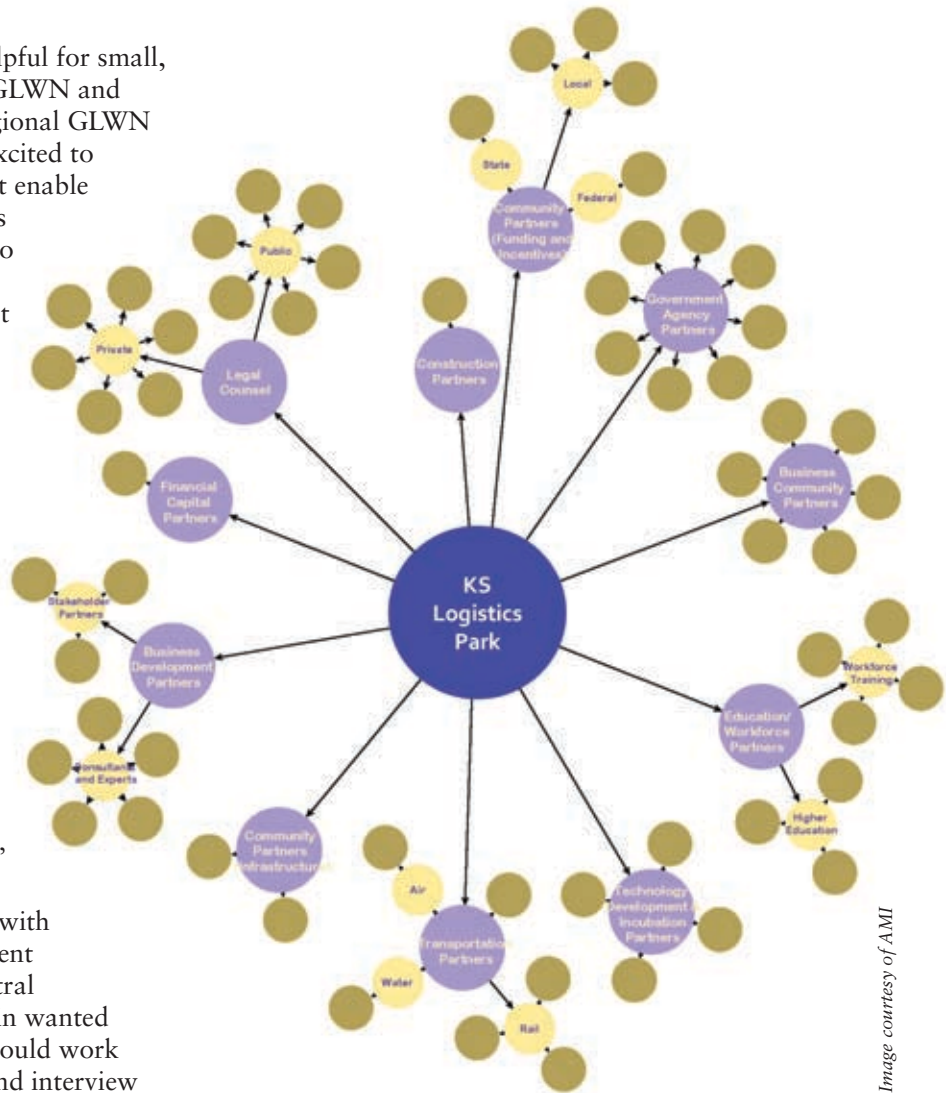


Image courtesy of AMI

where nascent manufacturing businesses are given space and offered business assistance to help them grow and run their businesses. Larger works may also be offered space to complete development work away from their production operations.

From the time the Logistics Park was publicly announced in November 2009, Mickey Fornaro-Dean, executive director of the Harvey County Economic Development Council, was looking for something more sustainable than a typical industrial park. “How can we wrap additional services around the property sale and support our companies in different ways?” She is working with AMI on various possibilities, such as tenant companies paying a lease instead of buying the property and getting extra services from the Economic Development Council.

The first tenant is Spartanburg, South Carolina-based company Tindall Corporation, which is building a dedicated wind tower base plant. The company said it chose the location partly for its ready access to interstate



Photo courtesy of Harvey County Economic Development Council

and rail lines, its central location in the country's wind corridor, and its small town feel. Although Tindall bought rather than leased the property, park management has already provided extra services, helping Tindall with hiring and marketing. A group of local companies is working to develop a consortium, looking at their capabilities and how they could support future park tenants. Fornaro-Dean says that could be used as a selling point for potential future tenants.

A second company in the wind energy business, New Millennium Wind Energy of Denver, Colorado, announced in July 2011 that it would build a wind turbine plant in the Kansas Logistics Park. Among the deciding factors in choosing that location, the company said, were a strong local workforce, good logistical support, and rail, barge, and highway access. Together, Tindall and New Millennium expect to hire 750 workers within four years.

In keeping with KOIN's emphasis on networking, Fornaro-Dean assembled a wide variety of partners in the nine-county area that helped put together an incentive package for New Millennium that included both financial incentives and logistics support. The partners included local, state, and federal agencies, infrastructure companies, attorneys, local businesses and consultants, and universities.

The Kansas Logistics Park will help New Millennium with various services, especially transportation logistics

and workforce development. AMI will talk to executives at New Millennium to find out what kind of suppliers they need, then talk to companies inside and outside the nine counties to see if they have the necessary capabilities. This will be the first time AMI produces a Wind Capabilities Profile Assessment as part of an incentive package paid for by the local community.

Kansas Army Ammunition Plant Redevelopment

When the Army Ammunition Plant in Parsons, Kansas closed in 2005, it meant the loss of more than 300 jobs with salaries nearly double the average salary in the region. It's a large, single-owner parcel with good access to roads and rail, but the site has environmental remediation problems. The plant had two incinerators, only one of which has been removed and the site decontaminated.

AMI has worked with the Great Plains Development Authority, which is acquiring the land from the U.S. Army and renaming it the Great Plains Industrial Park. Possible uses for the site are a wastewater treatment plant or medical waste incinerator. Another possible use is as a remanufacturing plant. With the access to rail and influx of military vehicles and equipment returning to the United States, the site could be used to store military equipment and then remanufacture items for third party sales. For instance, another

country could have use for remanufactured Humvees, says Ann Charles, deputy director of the Great Plains Development Authority.⁴

For all these possibilities, AMI can use its business development and networking capabilities to help with redevelopment. It has already researched medical waste companies and their locations and distribution centers.

Next Steps

Can the work of KOIN be replicated in other communities? That is certainly the hope. Some technological tools—asset mapping, a deep social network analysis, and the interactive visual tools that make a region’s assets instantly clear—can definitely be used elsewhere. KOIN uses technology to map and create networks for businesses that would not normally find each other. In all these ways, it offers an opportunity for rural communities to have some of the advantages previously restricted to urban areas.

AMI and its partners are extending the work started through KOIN with other initiatives. In summer 2011, AMI and the Harvey County Economic Development Council were awarded a Rural Business Enterprise grant from the U.S. Department of Agriculture to assess the feasibility of developing a manufacturing accelerator at the Kansas Logistics Park in South Central Kansas, and whether there’s sufficient infrastructure and supply

to support an accelerator for nine counties. The grant will also pay for AMI to complete a regional innovation readiness assessment for the area, looking at the resources, connectivity, and assets to make sure the accelerator would be useful. It’s all part of AMI’s continuing effort to leverage a variety of funding sources to improve the quality and quantity of economic activity for rural communities in the state.



Photo courtesy of Great Plains Development Authority



Photo courtesy of Great Plains Development Authority

For more information on the initiatives highlighted in this report, visit:

Kansas Opportunity Innovation Network
www.innovatekansas.org

Advanced Manufacturing Institute
www.amisuccess.com

Kansas Logistics Park
www.kansaslogisticspark.com

Kansas Army Ammunition Plant redevelopment
www.greatplainsindustrialpark.com

AMI's Economic Development and Cluster Analysis for North Central Kansas
<http://ami.ncrpc.org>

Kansas Economic Development Districts

Great Plains Development, Inc.
www.gpdionline.com

North Central Regional Planning Commission
www.ncrpc.org

Northwest Kansas Planning and Development Commission
www.networkkansas.com

South Central Kansas Economic Development District
www.sckedd.org

Southeast Kansas Regional Planning Commission
www.sekrpc.org

About KOIN

KOIN Team

The KOIN effort is led by Jeff Tucker, associate director at the Advanced Manufacturing Institute, under the supervision and guidance of Brad Kramer, director at AMI. Manveen Saini, economic development project manager at AMI, oversees all economic development projects at the institute, and Dale Wunderlich, industrial designer at AMI, works with the team to apply design thinking to economic development approaches.

KOIN partners

The first generation partners in the KOIN effort are the Advanced Manufacturing Institute at Kansas State University, Kansas Association of Regional Development Organizations, North Central Regional Planning Commission, Great Plains Development, Inc., Great Plains Industrial Park, South Central Kansas Economic Development District, Harvey County Economic Development Council, and Kansas Department of Commerce.



Endnotes

¹ Harvard Business School, Institute for Strategy and Competitiveness, <http://www.isc.hbs.edu/econ-clusters.htm>.

² Manveen Saini, “The Kansas Opportunity Innovation Network (KOIN),” Innovate Kansas, Advanced Manufacturing Institute, <http://innovatekansas.org/blog/2011/03/11/the-kansas-opportunity-innovation-network-koin-2>.

³ Kansas Logistics Park, Harvey County Economic Development Council, <http://www.kansaslogisticspark.com>.

⁴ Great Plains Industrial Park, Great Plains Development Authority, <http://www.greatplainsindustrialpark.com>.

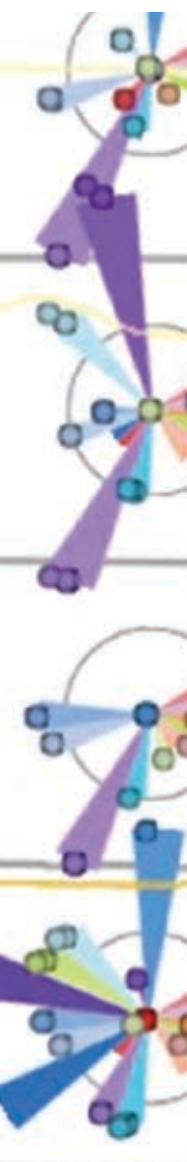
About the NADO Research Foundation

Founded in 1988, the NADO Research Foundation is the nonprofit research affiliate of the National Association of Development Organizations (NADO). The NADO Research Foundation identifies, studies and promotes regional solutions and approaches to improving local prosperity and services through the nationwide network of regional development organizations. The Research Foundation shares best practices and offers professional development training, analyzes the impact of federal policies and programs on regional development organizations, and examines the latest developments and trends in small metropolitan and rural America. Most importantly, the Research Foundation is helping bridge the communications gap among practitioners, researchers and policy makers.

This report was researched and written by freelance writer Joan Mooney, with guidance from NADO Executive Director Matthew Chase, Deputy Executive Director Laurie Thompson and Senior Program Manager Carrie Kissel. We thank all the individuals who provided information and photographs and those who consented to be interviewed.

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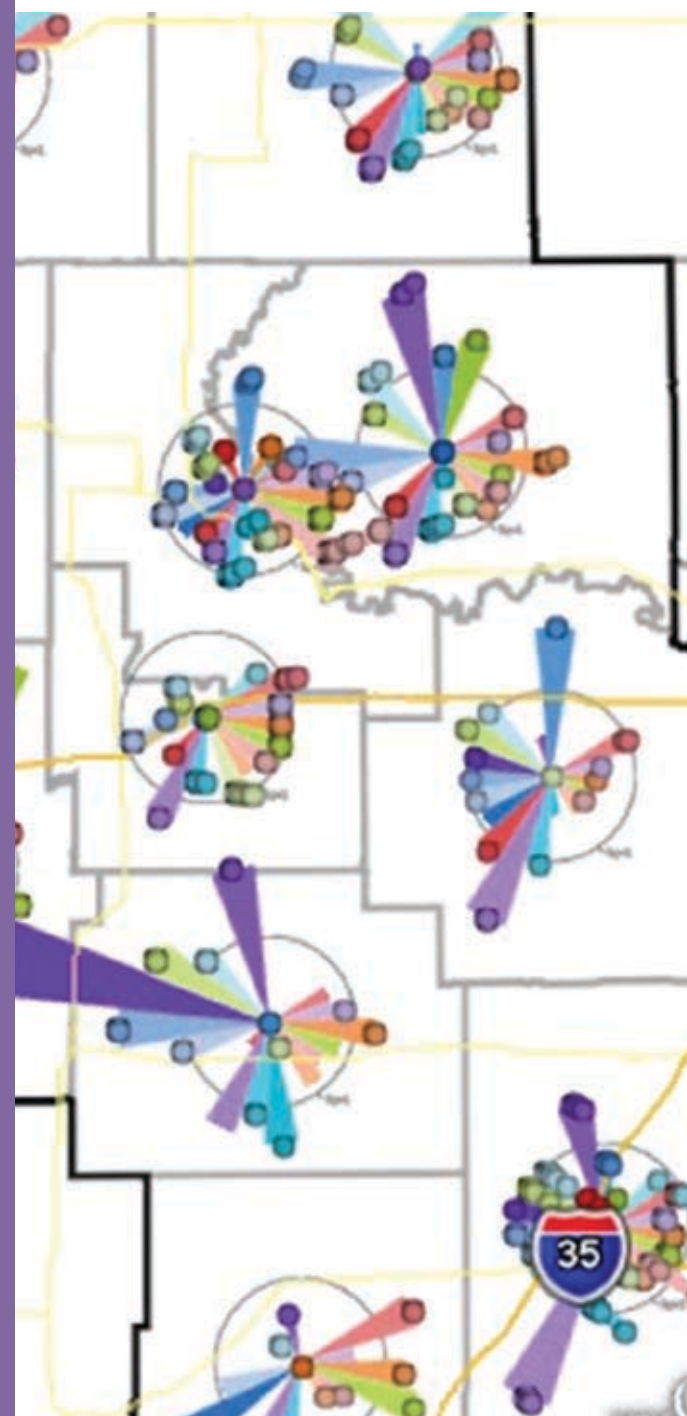
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