

Business Innovation Programs

Agribusiness Supply Chain Survey

Industrial Energy Efficiency

Healthy Workforce

Green Worker Certification

Nanotechnology Transfer

Energy Systems Network

Innovations Link





Agribusiness in the **G**lobal Supply Chain



CREATING VALUE IN THE Agri Business SUPPLY CHAIN

Exploring processes for communication, technology transfer, and buyer-supplier linkages, to provide alternative views of industry related problems, while also exploring opportunities for future industry investment and growth in North Central Indiana Agribusiness.

The Agribusiness industry in the **WIRED region has a significant economic impact. The number of employees in** the industry for this region is approximately 13,000, employed by over 480 establishments.

Many companies are interconnected by their suppliers, service providers, processes and infrastructure. It is a broad-based industry, ranging from independent farms to multinational manufacturers to distributors to farm credit firms and everything in between .

March 7, 2008

WIRED survey finds weak links in agribusiness supply chain

WEST LAFAYETTE, Ind. - An industry's supply chain is only as strong as its weakest link. For the agribusiness industry in north-central Indiana, that chain is being stretched to the limit.

A survey of agribusinesses in the 14-county Indiana WIRED region revealed that the industry faces work force challenges, regulatory issues and rising operating costs. Study findings will be shared during the Indiana WIRED Agribusiness Supply Chain Workshops.

Based on Research and completed Surveys of all businesses identified in the supply chain, Training Sessions and support were made available to the NCI Region.

Industrial Energy Efficiency

GOALS:

**Train workers throughout the region
in Energy Efficiency Practices**

**Identify \$1,000,000 in Energy
Savings**

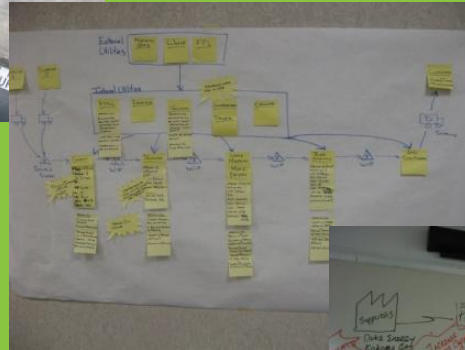
Energy Efficiency Metrics:

- **4 New Curricula developed**
- **28 companies engaged**
 - 26 Implementations started
- **115 Workers Trained**
- **137 Certificates Issued**
 - 101 Participation certificates
 - 36 Energy Efficiency Practitioner certificates

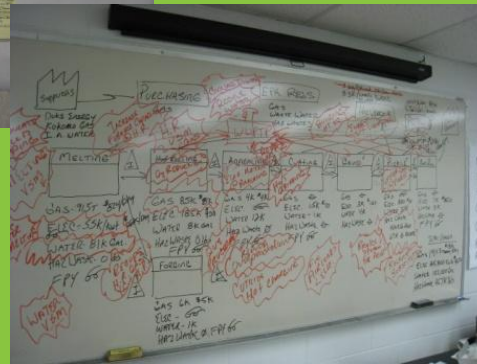


Left: At the Process Heating Assessment & Scoping (PHAST) workshop in Kokomo, Indiana, instructor John Clarke demonstrates how to use the software tool to determine potential natural gas savings by properly controlling the mixture of fuel and air in a furnace.

Developed and Piloted 'Energy Use Mapping' tool



Value Stream Mapping (VSM) is to “walk the line” collecting data on the Current State of a process.



The Infrared Imager camera can see both visible and infrared light, overlay them in a single image, and identify an overloaded 'hot' circuit.



Return on Investment from
Energy cost savings expected to
exceed **\$2.3M** per year.

•Over \$5 million in potential energy cost reduction identified

Sustainability:

- TAP is pursuing additional US Department of Energy, Department of Labor, and State of Indiana funding to leverage the materials developed under this project to provide additional training throughout the State of Indiana
- Energy Efficiency Practitioner and Energy Efficiency Survey Boot camp programs were both developed under this project and will be provided on an on-going basis by Purdue TAP's Energy Efficiency Services program



ENERGY SYSTEMS NETWORK

A 2007 Investment by NCI WIRED to support the development of a new strategy to link our old economy assets with new economy opportunities.



The Premise:

Opportunities could be found by fostering an entrepreneurial, collaborative environment and *facilitating talent development* in:

- energy conversion,
- power storage,
- distributed power generation,
- alternative energy and
- whole systems solutions.

During the formative months of IESN, five important initiatives were completed:

- A Leadership Advisory Board was formed to bring together industry leaders
- A Governor's Entrepreneur in Residence was established and utilized to mentor entrepreneurial efforts in this emerging industry
- Indiana energy systems assets, talents/skills, and gaps were identified in a unique, real time format.
- A structured, facilitated program conducted by Rocky Mountain Institute identified energy opportunities to target
- R&D networks and other collaborations were fostered.

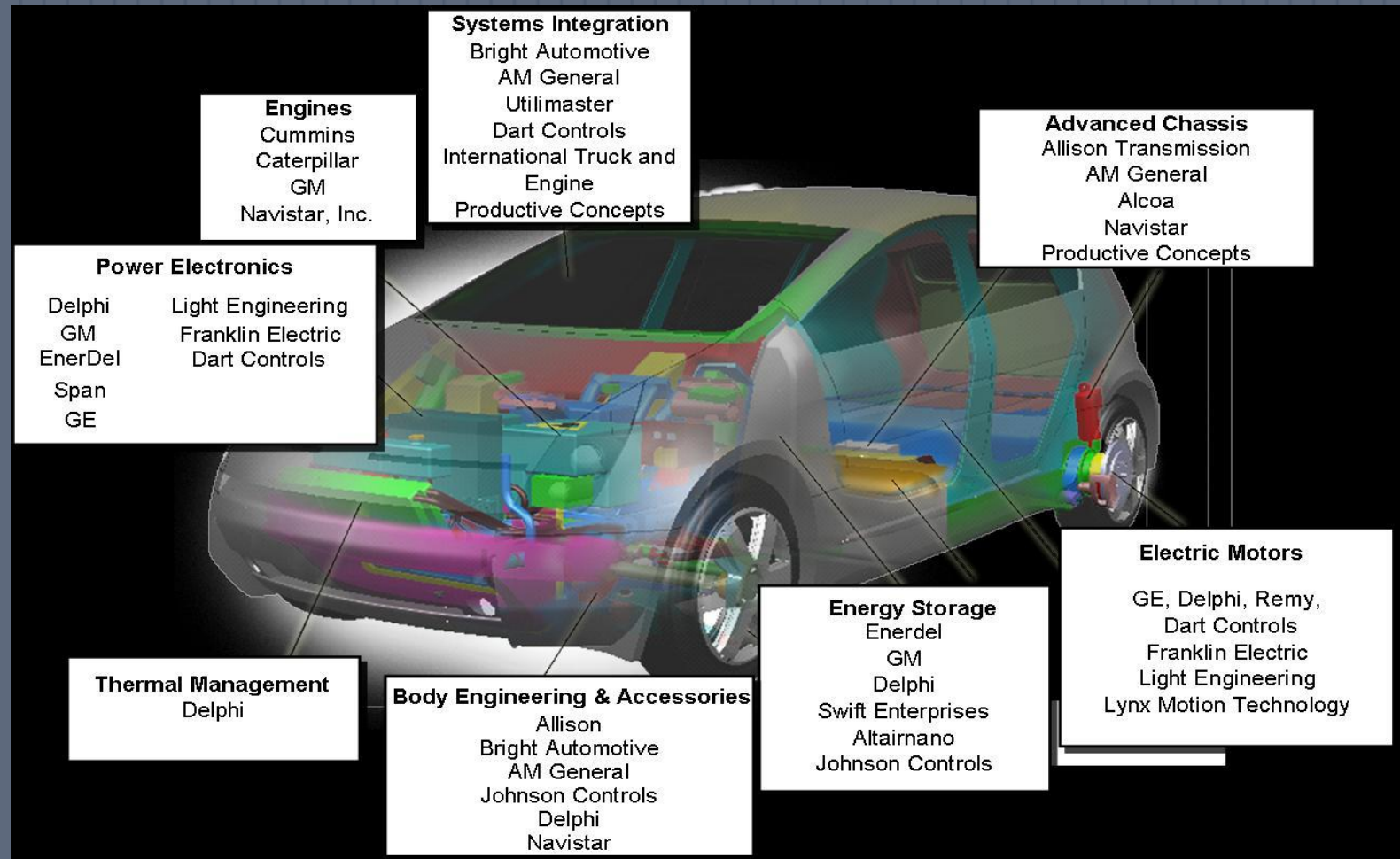


Background -Indiana Energy Industry

- Indiana has a rich heritage in energy
 - Automotive electronics
 - Batteries
 - Distributed power generation
 - Power electronics
 - Transportation systems
 - Rotating machines
 - Biofuels
- Major corporations are in the sector:
 - Delphi
 - Remy
 - Caterpillar
 - Allison Transmission
 - Rolls Royce
- Major IN Universities energy institutes

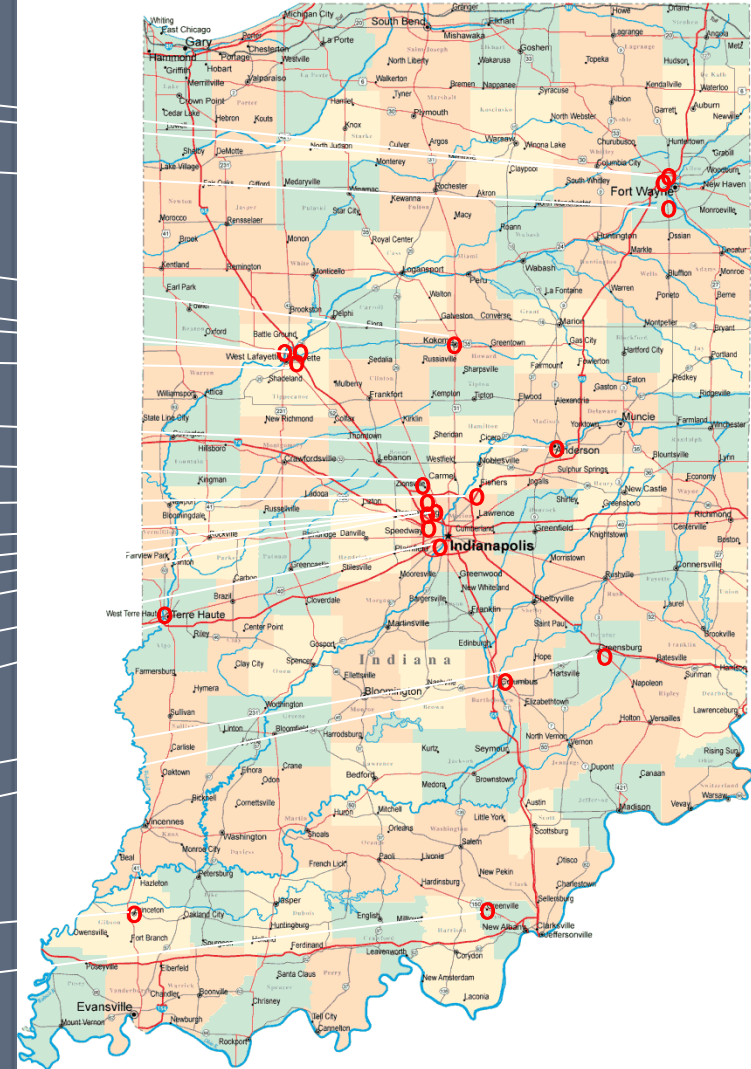


Indiana Has Assets in All Areas of the Electric Vehicle Value Chain



State-wide Hybrid Electric Vehicle 'assets'

- GE
- International Truck
- Franklin Electric
- Delphi
- Purdue
- Caterpillar
- Subaru
- Remy
- Dart Controls
- EnerDel
- Electric Vehicles Int'l
- Light Engineering
- Rolls Royce
- Span
- GM
- Rose-Hulman
- Honda
- Cummins
- Toyota
- Lynx Motion Technology



Workforce Research was Critical

- Information was collected on skills needs
- Explored an energy-unique component of the Indiana INternet program
- An RFP was issued and a project awarded to Monster.com to do a point-in-time report comparing Skills needed by Employers versus Skills available in applicants.
 - Covered all segments of energy
 - Traditional energy and construction trades
 - Green Energy
 - Alternative Energy Manufacturing
 - Demand, supply and gaps
 - Today
 - Future-- potential growth and emerging strategy
- Evaluated Education & Training programs to fill gaps
- Developed a Funding strategy

A FORMAL ORGANIZATION WAS BORN

The efforts of the informal IESN group gave birth to a formalized organization, the [Energy Systems Network](#), incubated by the Central Indiana Corporate Partnership (CICP) and Conexus Indiana.

\$2 Million has been secured in Corporate Funding to sustain the program



NEW START UPS BEING FOSTERED



Hoosier Heavy Hybrid Partnership:

A cooperative effort between Cummins, Delphi Corp, Allison Transmission and Duke Energy which seeks to:

Develop a fully integrated hybrid power train system that uses higher performance components;

Demonstrate next generation plug-in technology for light, medium and heavy duty vehicles.



Project Plug-In

Partners: Duke Energy, Indianapolis Power & Light, Nissan, Cummins, Bright Automotive, Delphi Corp, IBM, EnerDel, Simon Property Group, Purdue University, Rocky Mountain Institute

First of its kind commercial scale pilot of plug-in hybrid and smart grid technology working together to demonstrate an energy-efficient transportation system solution.



Degrees & Certificates in Sustainable Energy

Sustainability:

In August 2009 grant announcements were made that designated Indiana as the center of a massive federal investment in electric vehicle technology.

Impacts to our extended region:

Kokomo-based Delphi Automotive Systems LLC (\$89.3 million),
Indianapolis-based Allison Transmission (\$62.8 million),
Anderson-based Remy Inc. (\$60.2 million)

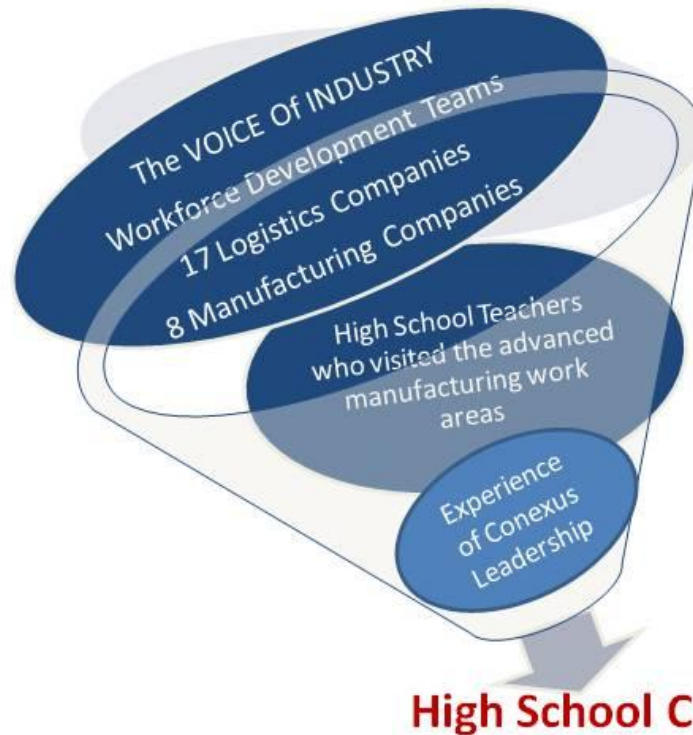
Paul Mitchell, president and CEO of **Energy Systems Network**, an Indianapolis firm that has helped several of the grant recipients form a loose Indiana-based coalition, said “this is absolutely huge for the state of Indiana.”

U.S. Sen. Evan Bayh, D-Ind., said of the hard-waged fight for the funding for emerging electric and hybrid vehicle technology:

“Today, it is official: Indiana has become the Silicon Valley of next-generation vehicles.”

Conexus continues to partner with Indiana WIRED by creating an on-line Curriculum to prepare students for Advanced Manufacturing careers.

How do you prepare high-schoolers for Advanced Manufacturing Careers?



To be used
by 28 High
Schools and
6 Career
Centers
throughout
Indiana*

*to date
(9.24.09) with
more to be
added

Redefined Skills, On-line, Easy to use, Results driven

Green Workforce:

Nation's first *Green Manufacturing*
training program developed



Purpose

To develop a workforce accreditation program in the field of sustainability, sorting through the considerable confusion in the market place what “green” is and what “green jobs” are;

To develop a credential that would testify to a person’s knowledge of the many issues involved in sustainability and have the ability to implement positive change at their place of work.

Green Specialist

To become a Green Specialist , the following Green Generalist and Green Specialists modules must be completed.

Areas of Focus

Generalist 101

Sustainability in Practice

Dumpster Dive

Energy Mgmt

H2O Conserve

Pollution Solutions

Green Chemistry

Specialized Training

SME Green Manufacturing Specialist Certificate





Metrics:

8 new curricula developed

Within NCI WIRED region:

235 workers trained

12 companies engaged

208 Certificates issued

95 Purdue Students trained

Outside NCI WIRED region:

456 individuals trained ~10 organizations engaged

More availability:

Training materials are the basis for a Web-Based Green Workforce Generalist training module.

1. Training is available to the individual through Purdue's Continuing Education.
2. Licensing of this web-based training by the developer will extend the reach to Community Colleges.

~1,000 individuals are projected to be trained annually.

Sustainability:

As this Program drew to a close, Purdue Technical Assistance Program EES has completed extensive training within the NCI WIRED and in Indiana. Seven MEP Centers and three community colleges have the ability to deliver the Generalist module and are on schedule to be able to deliver the entire Specialist series by June 2010. Including TAP EES instructors, there are 70 facilitators now qualified to deliver the Green Generalist module.



Healthy Workforce

Purdue Technical Assistance Program launches Healthy Workforce Program

The goals for this program include:

Training workers

to increase productivity by becoming better consumers of Health Care Services.

Training employers

to offer more effective wellness programs.



Training was Certified by the State of Indiana

14 Implementations started & 11 completed

12 New Curricula

491 Health Risk Assessments completed

1,112 Individuals beginning training

631 individuals completed training & received certification

Sustainability:

The Healthy Workforce program will continue to be offered by Purdue Technical Assistance Program after the WIRED grant.

INNOVATIONS LINK



LINKING NEW INNOVATIONS
WITH EXISTING BUSINESS

Proposal/Development Team:

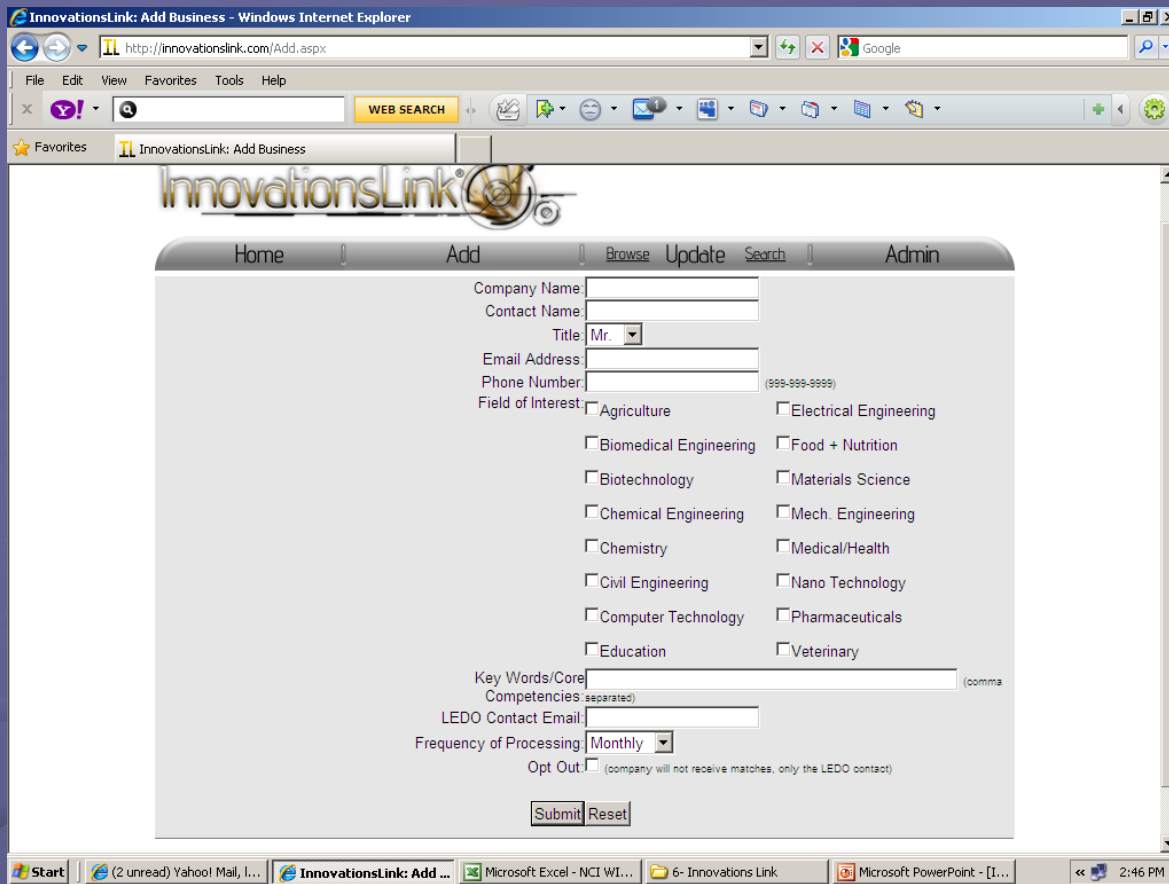
Miami County Economic Development Authority (MCEDA) Purdue
Research Foundation's Office of Technology Commercialization (PRF OTC)
Purdue University's Department of Computer and Information Technology

The Concept

A strategy for moving university developed innovations into the region's industrial firms using an enterprise-wide approach that includes:

- innovation transfer
- technical assistance
- skill development

Automating the matchmaking process ensures best fits for innovation transfer and speeds the process of skill building for workers and growth opportunities for firms.



Tools and templates for accessing industry capacities

A “stand-alone”, web-based database that can be used by any economic development organization in the State of Indiana

Each organization will have access to only those companies which they have entered into the system to ensure privacy of information.

The Basic Elements or Components

- When a new company is entered into the system, the program will search existing innovations on file.
- Should a potential match be found, the system will automatically send an e-mail notification to the company's designated contact person.
- The system will record the date of the initial search and will then automatically initiate a periodic review (every 30 days)

Sustainability:

This process and on-line system is designed to roll out state-wide with continued growth of partners and companies.

Future Partners

- All Local Economic Development Organizations (LEDOs) in Indiana
- All Colleges and Universities in Indiana
- Indiana Economic Development Corporation (IEDC)
- Indiana Economic Development Association (IEDA)

Nano- Technology Transfer

SKILL DEVELOPMENT

ADVANCED MATERIALS

GOALS:

Help the region's businesses gain a competitive advantage

Increased Employee Knowledge creating an educated workforce

Improvement in tool life

285 Employees Completed training

144 Certificates Earned

14 Companies Participated

\$.5M Return on Investment

Incorporated into Ivy Tech curriculum



Sustainability:

A partnership developed between Purdue Technical Assistance Program and Ivy Tech paved the way for this technology to be introduced into Ivy Tech curriculum ensuring latest technical knowledge will be passed to future workers.