



2010

MOVING INDIANA FORWARD

PURDUE TECHNICAL ASSISTANCE PROGRAM **A YEAR IN REVIEW**

TAP’s mission is to advance Indiana’s economic prosperity, health and quality of life. TAP supports performance improvement in Indiana companies and organizations through various programs and services that utilize faculty, students and staff in 10 statewide offices.

TAP EXPERTISE FOR ANY NEED

TAP offers training and technology implementation on a funded basis. Offerings include:

- > Lean manufacturing and workforce transformation
- > Quality systems and Six Sigma certifications
- > Team building, problem solving, and leadership training
- > Business growth idea creation
- > Customized training for the healthcare and pharmaceutical sectors
- > Energy reduction and training
- > Green workforce training

MESSAGE
FROM THE PRESIDENT



Purdue University is building on its “discovery with delivery” mission by helping improve Indiana’s economic landscape. By partnering with the state’s businesses and policy leaders, Purdue’s Technical Assistance Program (TAP) is working to ensure that an economic recovery for Indiana is one with the staying power needed for the long term.

As this report details, TAP has emerged as a powerful tool in achieving these goals, helping Purdue deliver meaningful services to all of Indiana. Since the program was launched in 1986, thousands of Indiana organizations and businesses have received services, creating an economic impact valued at more than \$750 million. TAP’s contribution for 2009-10 adds to this impressive figure.

This year, more than 1,000 jobs were created or preserved at 541 businesses, healthcare providers and organizations in Indiana served by TAP during the reporting period. A total of 3,731 employees received training, helping employees further their individual career goals while also helping meet the goals of their employer. Tens of millions of dollars in increased and retained sales, cost savings and capital investments round out the success TAP shares with its affiliates statewide.

Moving forward, TAP has launched two major initiatives to meet pressing state and national needs. The first is Save Energy Now, a U.S. Department of Energy and Indiana Office of Energy Development program that will help 500 companies implement significant energy reductions over three years. The second is the Indiana Health Information Technology Extension Center, a \$12 million U.S. Department of Health and Human Services initiative, which will help 2,200 physicians adopt electronic health records over the next two years.

TAP’s strength stems from the talented pool of expert faculty, staff and students who are committed to making Indiana companies more efficient and productive. Without our corporate and government partners providing these opportunities, these benefits for our state would not be possible. Together, Purdue TAP and our many partners are making Indiana’s economy stronger and improving the health and quality of life for our citizens.

France A. Córdoba
President, Purdue University

“Many companies have undergone significant changes during the recession, and now is the perfect time to plan for how those changes will affect performance in an improving economy. Equipped with a portfolio of strong, impactful programs and a tradition of results, our team is focused on developing programming and recommendations that we believe can help businesses in Indiana thrive going forward.”

— David McKinnis, Director of TAP

WHAT'S INSIDE

3

President's Message

4

Making Headlines

6-7

TAP Impact by the Numbers

8-11

Advancing Manufacturing

12-15

Connecting to Campus

16-19

Thinking Green

20-23

Improving Healthcare

(July 2009–June 2010)

\$54.1 million

Increased or retained sales

\$6.8 million

Cost savings

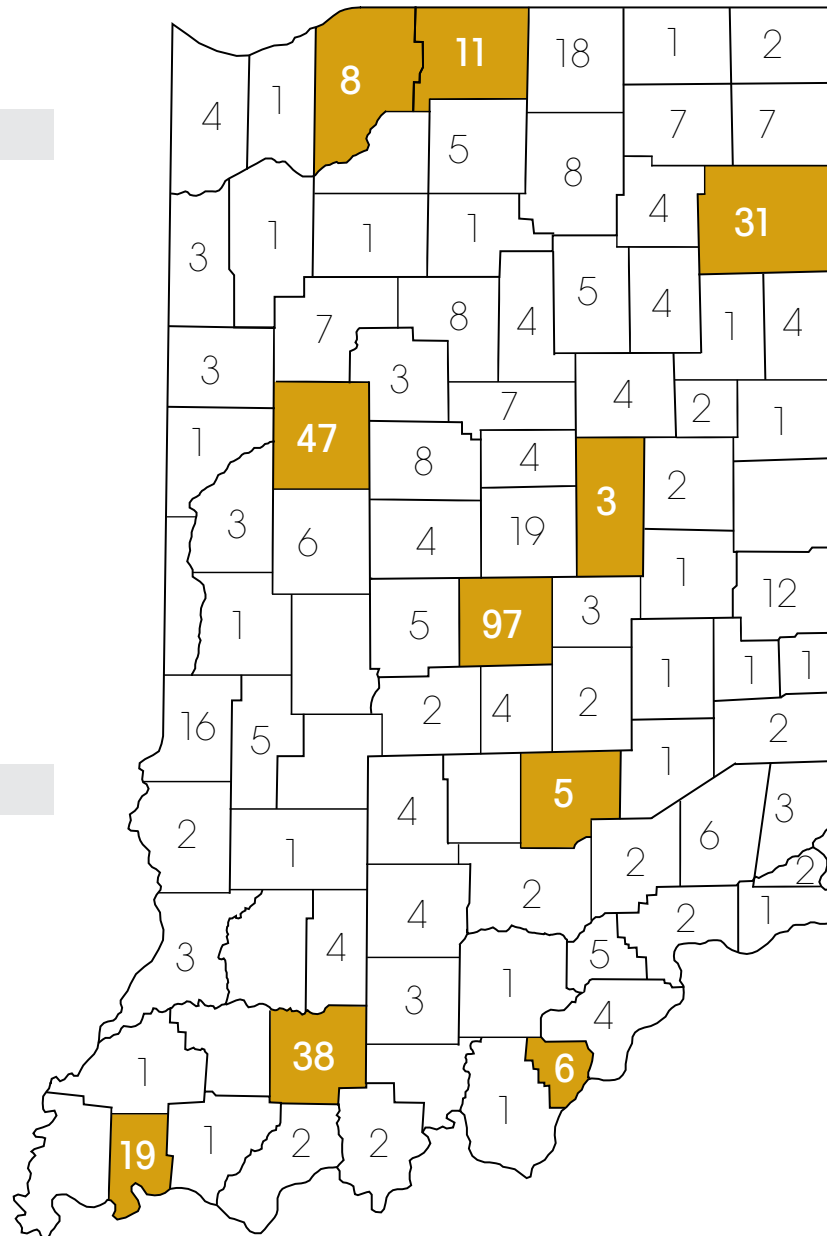
\$26.1 million

Capital investment

Employment:

1,098

Jobs added/saved



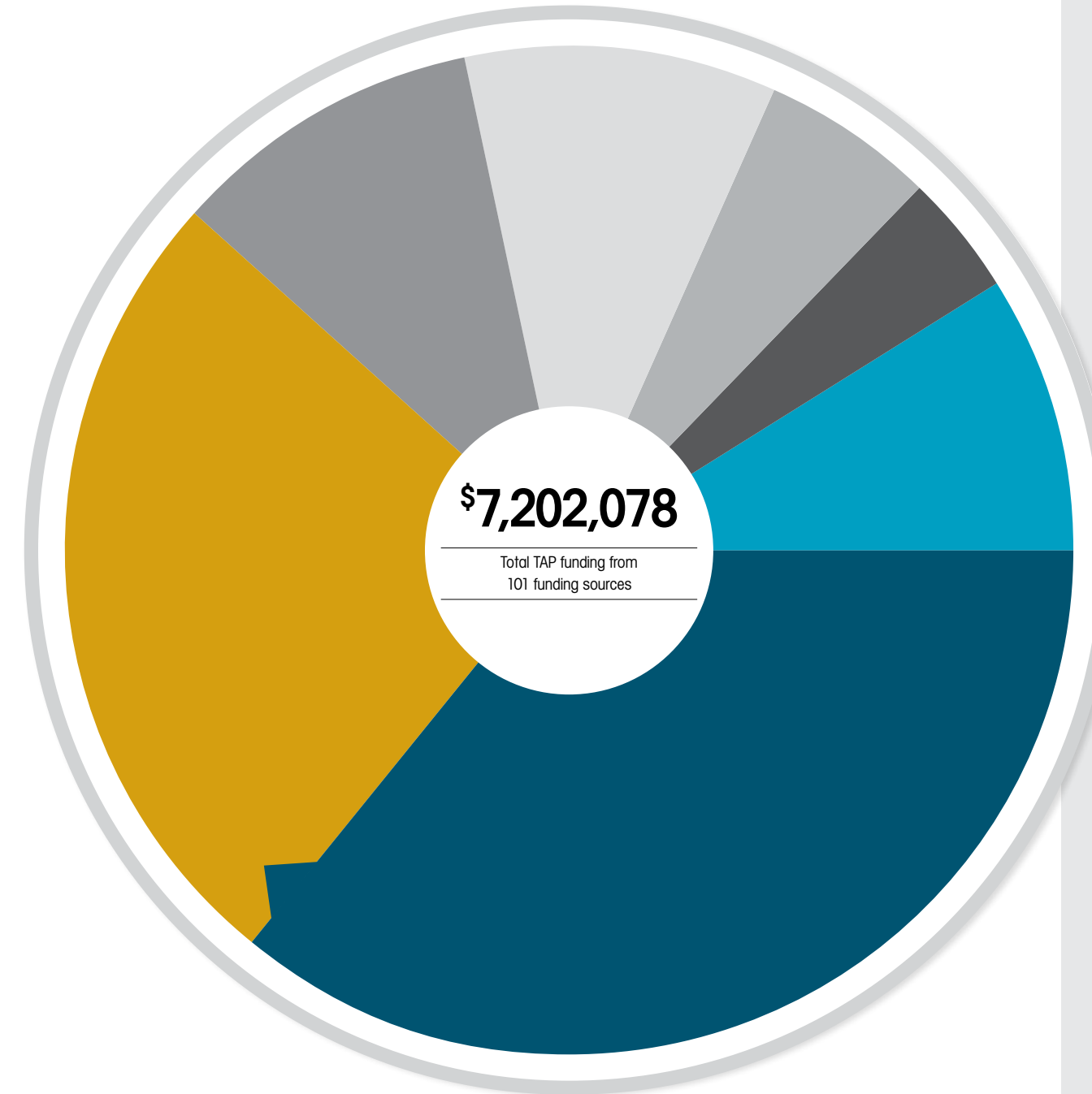
Number of Clients Served Per County:

In 2009–10, TAP faculty, graduate students, and staff worked with 541 employers, hospitals, healthcare providers, and governmental units in 82 counties across Indiana.

Training:

In 2009–10, TAP trained 3,731 Indiana employees in multiple areas including manufacturing, public health, healthcare and energy services.

■ TAP office locations highlighted in gold.



2009-10 Funding

\$2,591,624

Service fees from business and healthcare for training and technical assistance

\$1,858,211

State funding for business assistance

\$721,287

Indiana Economic Development Corporation
funding for manufacturing assistance

\$715,699

Indiana State Department of Health funding for public health initiatives

\$399,994

Indiana Office of Energy Development funding
for energy efficiency programs

\$277,290

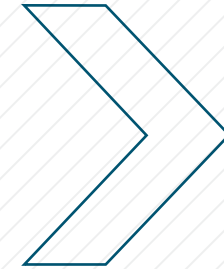
U.S. Health & Human Services funding for electronic health records implementation

\$637,973

Other

ADVANCING MANUFACTURING

MANUFACTURING EXTENSION PARTNERSHIP



THE TECHNICAL ASSISTANCE PROGRAM/MANUFACTURING EXTENSION PARTNERSHIP SERVED MORE THAN 350 INDIANA COMPANIES WITH WORKFORCE TRAINING AND PRODUCTION NEEDS FROM JULY 2009 TO JUNE 2010. PURDUE MEP PROGRAMS ASSIST INDIANA COMPANIES WITH ADVANCED MANUFACTURING EFFORTS BY COMBINING TRAINING WITHIN INDUSTRY: JOB RELATIONS, JOB INSTRUCTION, AND JOB METHODS WITH LEAN MANUFACTURING AND CONTINUOUS IMPROVEMENT PRINCIPLES AS CORE WORKFORCE TRAINING AND PRODUCTION STRATEGIES.





OMCO

Purdue TAP/MEP training was instrumental in the decision by OMCO to relocate a manufacturing line to Pierceton, Ind., from Pennsylvania. The manufacturer of products ranging from smaller parts for vending machines and cash registers to framing and other custom products for military applications and tractor-trailer makers increased its in-plant mills to 16 from 12, expanding local production and preserving Indiana jobs. The 110 employees at the 55-year-old Northern Indiana manufacturer now work to minimize waste and are empowered to make decisions on the production line, allowing OMCO to remain nimble in responding to customer needs. The partnership also was career-changing for Carla Kimberlin, who rose from a line worker to the facility's Kaizen Coordinator after going through the Purdue training program.

"Better, faster, cheaper, simpler — the better we get at these 'Lean' principles, the more unstoppable we will become. As a team, we are making OMCO the premier roll-form supplier in the world. With the training that OMCO employees received through this Purdue TAP/MEP partnership, and the practice that we put into it, it is achievable. I believe my career also has benefited because Purdue instructor Steve Hornett lit a fire. Steve taught with a passion that is a testament to a personal belief that 'Lean' truly does work. Raised on a farm and coming from a blue-collar background, I'm excited about what the future holds for me and for OMCO."

— Carla Kimberlin, Kaizen Coordinator, OMCO, Pierceton, Ind.

NISHIKAWA STANDARD CO. (NISCO)

Facing tough economic conditions, leadership at Nishikawa Standard Co. (NISCO) realized a formal training program was key to maintaining quality and safety standards and reducing turnover. Through the Purdue MEP Training Within Industry (TWI) program, the supplier of dynamic sealing systems for foreign and domestic automotive customers was able to develop a more hands-on, new-hire orientation process. NISCO's customer volumes increased during the second half of 2009 and the first quarter of 2010, which led to the addition of 156 employees at Topeka and 178 employees at Bremen:

- > Overall training time for new hires was reduced by 67 percent.
- > Turnover rates improved by 52 percent.

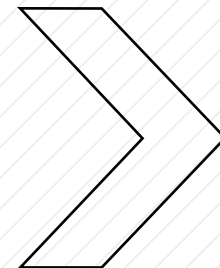
"Purdue's TAP/MEP Training Within Industry (TWI) program has given NISCO a solid foundation on which our associates may be developed into thinking members of the team in the fastest possible way. Through the Purdue-NISCO partnership, we connected with other Indiana businesses on similar TWI journeys. We have made contacts with other industries to share in benchmarking visits and best practices. This is providing NISCO with a competitive advantage in our industry."

— Bob Kuenning, Vice President of Manufacturing, NISCO, Topeka, Ind.

CONNECTING TO CAMPUS



FACULTY ASSISTANCE

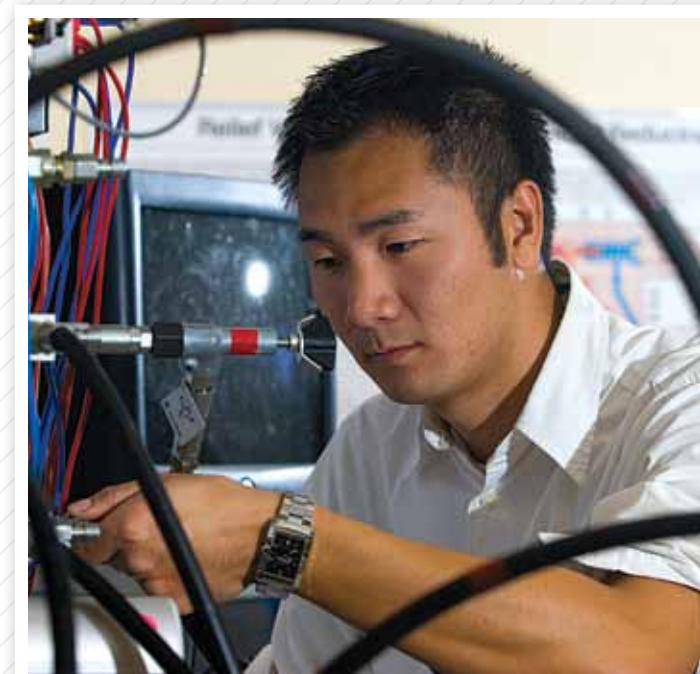


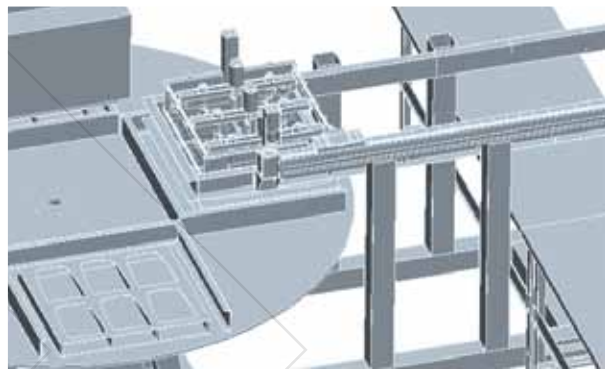
TAP OPENS THE DOOR TO PURDUE FOR INDUSTRY AND OTHERS LOOKING TO TAP ITS FACULTY'S TECHNICAL AND BUSINESS EXPERTISE OR TO HIRE THE UNIVERSITY'S UNDERGRADUATE OR GRADUATE STUDENTS WHO ARE NOW READY TO TAKE THEIR NEXT CAREER STEP. TAP PROVIDES FREE, CONFIDENTIAL CONSULTING WITH THE ASSISTANCE OF PURDUE FACULTY FROM ACROSS ALL 10 OF ITS COLLEGES FOR A FULL RANGE OF BUSINESS AND TECHNICAL ISSUES. THIS EXPERTISE RANGES FROM ADVANCED MANUFACTURING AND BUSINESS MANAGEMENT AND STRATEGY TO HUMAN RESOURCES AND PRODUCT DESIGN AND ENGINEERING. MORE THAN 30 PURDUE FACULTY MEMBERS ARE AFFILIATED WITH TAP, WORKING CLOSELY ON PROJECTS AIMED AT MAKING COMPANIES MORE EFFICIENT, EFFECTIVE, PRODUCTIVE, AND PROFITABLE.

TAP's faculty assistance team provides free, confidential consulting on a full range of business and technical issues, including:

- > Advanced manufacturing
- > Business management and strategy
- > Data analysis
- > Environmental health and safety
- > Facility addition and layout
- > Human resources
- > Information technology and security assessments
- > Material selection and part-failure analysis
- > Product design and engineering

* TAP does not support projects involving litigation. Projects involving the development of intellectual property require written contracts.





BRIGHTPOINT NORTH AMERICA LLP

Brightpoint North America LLP, a global leader in the distribution and logistics services in the wireless industry, partnered with Purdue's engineers to help streamline and remove a bottleneck in one of its cellular phone packaging lines. After analyzing the process of this line, Purdue's TAP associates suggested automating a step that would reduce the bottleneck. This solution also reduced the ergonomic challenges for employees because the operators were constantly rotating their hip by up to 180 degrees to pick, place and off-load the product.

Enter a team led by Purdue professor Mark Jackson, who worked with doctoral student Milan Rakita to design an innovative piece of equipment as a solution. Anderson Tool & Engineering was contacted to produce the piece of equipment. Now, after a six-month trial, the machine will be added to eight other production lines at Brightpoint over the next 12 months. In addition, Brightpoint officials project increased productivity, better ergonomics and a reduction in cycle time per line of 9 to 12 seconds per order, and operating cost savings of at least \$25,000 each year per production line.



“This TAP program has been instrumental in developing one of our business-plan objectives — introducing new, innovative ways to improve our processes and introduce automation into our manual operations. Purdue’s technical assistance and partnership with Brightpoint’s supply chain operations have strengthened our overall processes. For Brightpoint, Purdue TAP is a very valuable resource and partnership that is helping us to be successful in supporting our customers.”

— Jeff Long, Director, Quality and Industrial Engineering and Facilities, Brightpoint North America LLP, Plainfield, Ind.



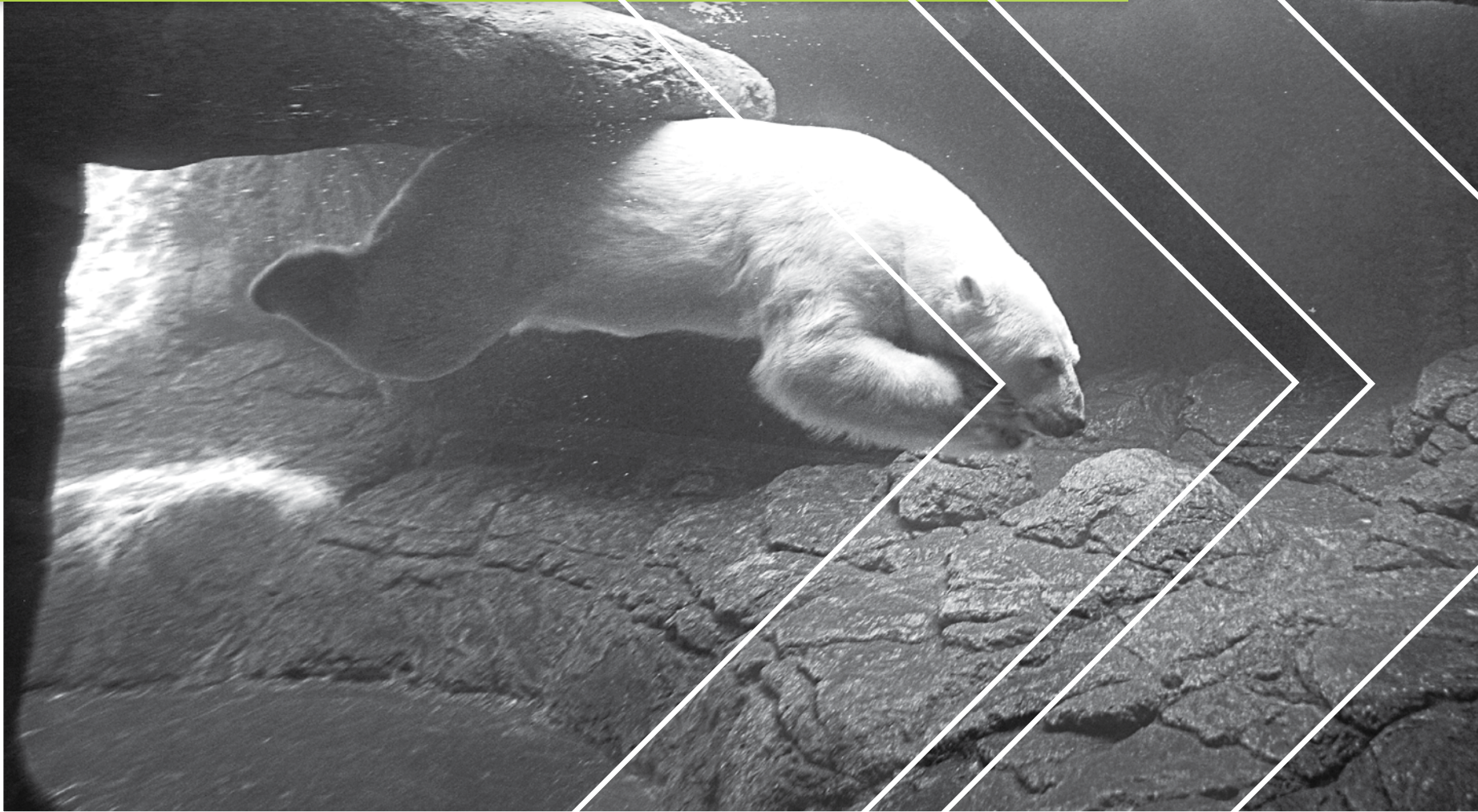
ALCOA INC.

Alcoa Inc. engineers at the Global Hard Alloy Extrusions facility in Lafayette, Ind., discovered that an H-13 tool steel component used to manufacture aluminum extrusions for the aerospace industry was cracking. Was there a material defect in the container lining assembled and supplied by an outside company, causing it to fail after less than 100 cycles vs. the expected 1+ million cycles? Or were the cracks, or fractures, due to exposure to high temperatures during the aluminum extrusion production process at the Alcoa facility? An Alcoa team led by Gerry Dail turned to Purdue TAP to see if university engineers could solve the mystery. Alcoa wanted to understand the cause of the failure before installing new material into the container housing and repeating the problem, preventing losses that could reach \$50,000. A research team involving Purdue Materials Engineering Professor John Blendell and graduate student Kamesh Swaminathan used scanning electron microscopy and hardness measurements in their analysis. The result: The faulty steel tool had an excessive hardness, causing it to behave in a brittle manner and fail prematurely. In response, Alcoa decided to approach another company to complete the relining of the steel tool so the global manufacturer could restart production on that assembly line.

“The analysis by TAP, drawing on the expertise of Purdue faculty and researchers, led us to conclude the company that had provided the assembly of the failed container liner used a heat treatment firm that did not provide acceptable quality. Replacing the components in a container of this size alone would cost in excess of \$25,000, not to mention the costs in lost production and the adverse impact on customer deliveries. With the quick turnaround on this project by Purdue TAP, we have installed the new component and restarted production on that line. This project clearly confirmed the validity of Purdue’s expertise in this area.”

— Gerry J. Dail, Manager, Engineering and Aerospace Tool Design-Manufacture, Lafayette (Ind.) Operations, Global Hard Alloy Extrusions, Alcoa Inc.

THINKING GREEN



ENERGY EFFICIENCY & SUSTAINABILITY



TAP WORKS WITH MANUFACTURERS AND OTHERS INTERESTED IN LEARNING HOW TO APPLY SUSTAINABLE, ENVIRONMENTALLY FRIENDLY PRACTICES IN THE WORKPLACE. GREEN ENTERPRISE DEVELOPMENT PROVIDES WORKFORCES WITH HANDS-ON ACTIVITIES, SIMULATIONS, AND CASE STUDIES TO TEACH ENVIRONMENTAL SUSTAINABILITY THAT LEADS TO PROCESS IMPROVEMENT.



INDIANAPOLIS ZOO

The Indianapolis Zoo collaborated with Purdue TAP on a detailed energy and sustainability assessment through its Energy Efficiency and Sustainability (EES) Program. The zoo spends \$1.6 million a year, or 8 percent of its \$20 million annual budget, on utilities to power 40 separate campus buildings and maintain habitats for hundreds of animals. The project focused on the Dolphin, Oceans and White River Gardens exhibits. Purdue’s TAP team provided a two-pronged recommendation for controlling and reducing energy costs, several of which have been implemented or are in the process of being implemented:

- > An immediate capital investment of \$120,840 in energy-related enhancement that will generate \$92,074 annually in utility cost savings, resulting in a collective payback of 1.3 years. That alone is 5.75 percent of the zoo’s annual utility expenses.
- > Investing \$644,710 in immediate and long-term, energy-related enhancements to return \$214,451 annually in utility cost savings, resulting in a collective payback in just three years.

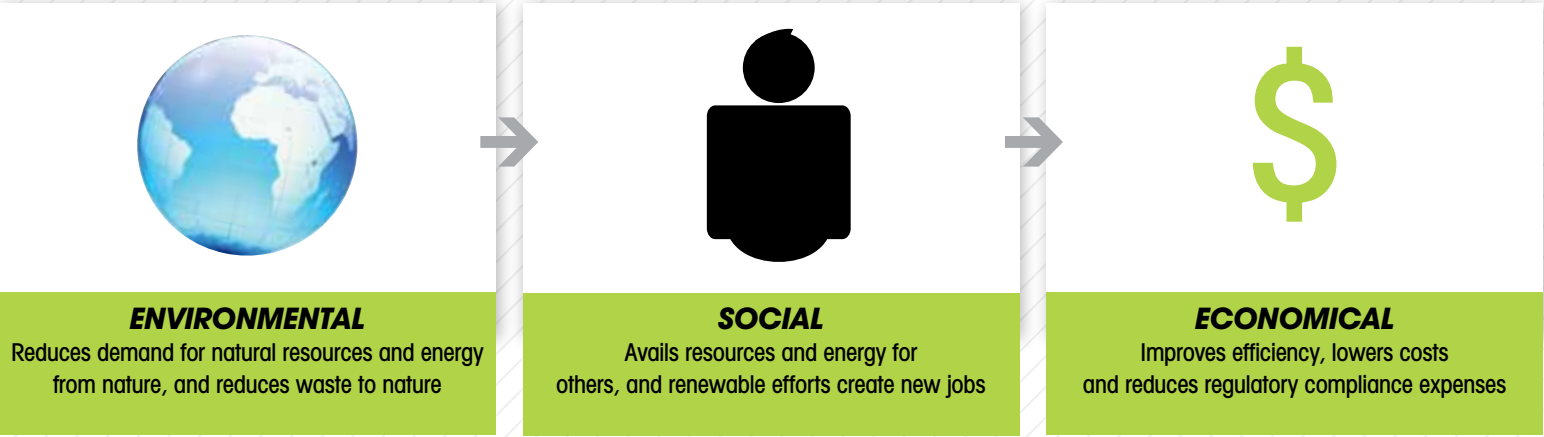


“Utility costs may never go down again, so if the Indianapolis Zoo can keep its energy consumption at current levels over the next five or 10 years, we’ll be making incredible strides in our mission as a leader in conservation and as a standard — a model of sustainability for zoos in the Midwest and throughout the nation. Purdue TAP has been a very good resource to help the Indianapolis Zoo reduce its energy consumption as we continue efforts to empower people, resources and communities locally and globally to advance animal conservation.”

Mike Teague, Director of Facilities,
The Indianapolis Zoo



IMPLEMENTING GREEN-DRIVEN SUSTAINABILITY PROGRAMS MAKES SENSE ENVIRONMENTALLY, SOCIALLY AND ECONOMICALLY:



THE 21ST CENTURY GREEN WORKER

Green Workers can be in any occupation and in any type of organization:

- > They come from every spectrum of the business world and understand the role and goal of sustainability.
- > They can identify opportunities and use tools to implement solutions.
- > They partake in the continuous improvement process in the workplace.
- > They have the knowledge and skills to be active participants in their organization’s efforts to implement sustainability methods and processes.

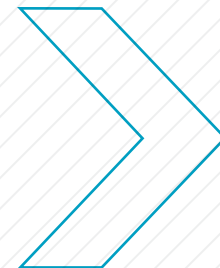
“Using the tools we learned through the Green Generalist workshop, we formed a green team, identified environmental performance metrics, and are now setting goals. We look forward to continuing our work with Purdue TAP as we head down the green path.”

Donna Roberts, Safety Engineer, Rea Magnet Wire Co.,
Lafayette, Ind.

IMPROVING HEALTHCARE



HEALTHCARE TAP



HEALTHCARE TAP UTILIZES MULTIDISCIPLINARY TEAMS FROM PURDUE THAT INCLUDE NURSING, PHARMACY PRACTICE, INDUSTRIAL AND BIOMEDICAL ENGINEERING AND TECHNOLOGY TO ASSIST HEALTHCARE PROVIDERS IN IMPROVING HEALTHCARE DELIVERY. HEALTHCARE TAP WORKS IN A VARIETY OF HEALTHCARE SETTINGS INCLUDING HOSPITALS, AMBULATORY CARE, LONG-TERM CARE AND PUBLIC HEALTH, UTILIZING SYSTEMS ENGINEERING AND MEDICAL AND NURSING BEST PRACTICES TO IMPROVE QUALITY OF CARE, SAFETY AND EFFICIENCY.

INDIANA HEALTH INFORMATION TECHNOLOGY EXTENSION CENTER (I-HITEC)

Purdue was awarded a \$12.4 million federal stimulus grant to assist 2,200 Indiana primary care providers and Critical Access and Rural Hospitals with the implementation of electronic health records and the meaningful use of the medical information. This important work will advance patient health outcomes in the state.

"There is a national priority to have hospitals and physicians transition from paper-based medical records to electronic medical records by 2015. Leveraging the statewide reach of Purdue's Healthcare TAP and its healthcare, IT and EMR expertise, healthcare providers have ready access to the help they need to make this transition."

— Monica Arrowsmith, Director,
Indiana Health Information Technology Extension Center (I-HITEC)





INDIANA VETERANS' HOME

Healthcare TAP partnered with the Indiana Veterans' Home, training more than 20 staff members in Lean principles to improve the documentation of patient acuity. Management leaders, nursing, social services, food and nutrition, human relations and accounting staff participated in the training. Healthcare TAP also analyzed how the work-scheduling system could be rebalanced to reduce overtime costs and recommended redesign and standardization of the workstations to improve efficiency and productivity.

"The result of our partnership with Healthcare TAP amounted to a complete cultural shift for the Indiana Veterans' Home. We have continued that momentum in equipping and empowering our staff with the tools they need. We are applying changes to improve the overall healthcare experience for our residents and how we interact with their family members. We look forward to working with Purdue in the future."

— Antonio Stewart, Superintendent, Indiana Veterans' Home, West Lafayette, Ind.



INFANT MORTALITY

The infant mortality rate in several Indiana counties is as high as 32 deaths per 1,000 live births, a figure five times higher than the national average of 6 deaths per 1,000 live births. To address these alarming rates, Healthcare TAP is working with the Indiana State Department of Health and the Robert Wood Johnson Foundation, analyzing data that will be used to create educational and training programs in those counties. The effort, modeled after a program led by CityMatCH in Omaha, Neb., uses a holistic approach to the problem by focusing on economical, cultural, educational, and social issues at the local level. The program represents one of several projects under way between Purdue, Healthcare TAP, and the Indiana State Department of Health.



"The Indiana State Department of Health's partnership with Purdue Healthcare TAP is helping to move the state forward in preparing for national public health accreditation. Through the knowledge, expertise, and guidance of the TAP subject-matter experts, local health departments in Indiana are internalizing quality improvement and learning to document activities and provide a higher level of service to all Hoosiers."

— Dr. Gregory Larkin, Commissioner, Indiana State Department of Health



TECHNICAL ASSISTANCE PROGRAM

David McKinnis, Director
Purdue University
1435 Win Hentschel Boulevard, Suite 205
West Lafayette, IN 47906-4154
Phone: 765-494-6258
Fax: 765-494-9187
tap@purdue.edu
www.purdue.edu/TAP