TECHNICAL ASSISTANCE PROGRAM

Engaging with Indiana business to build our economic future

A Year in Review
July 2003 — June 2004

Purdue University
In order to be one of America's preeminent universities, Purdue must be a strong economic partner with the state of Indiana. Among our highest priorities are the improvement of the business climate, the creation of jobs, the nurturing of new businesses, and the support of existing firms.

Purdue's Technical Assistance Program has been a valuable and trusted friend to Indiana entrepreneurs for more than 18 years, and its impact continues to grow. The companies it has helped since 1986 credit TAP with some $296 million in increased sales, $63 million in increased capital investment, and the creation or preservation of 4,100 jobs for Indiana workers.

In the past year alone, TAP has provided services to 458 companies in 63 of Indiana's 92 counties. The program's High Tech Job Fair connected 51 employers with 1,000 Purdue students.

The program has been especially effective in serving the state's key core business sectors: manufacturing — where more than two-thirds of its services were delivered — life sciences, and information technology.

Every business with which TAP has worked has been helped, and many have experienced dramatic improvements. By connecting the business community to the expertise and vast resources at Purdue, TAP can greatly improve the competitive positions of individual firms, as well as Indiana's ability to succeed in the global market.

By investing in TAP in 1986, our state made a wise decision that will keep paying dividends for many years to come. I believe there will be even greater opportunities in the future, and we look forward to finding ways to increase the ability of this program to serve the businesses and the people of Indiana.

Martin C. Jischke
President, Purdue University
The Technical Assistance Program connects Indiana businesses and local governments with the vast resources of Purdue University.

Our mission: To strengthen the Indiana economy and improve the quality of life for all Indiana citizens.

TAP's achievements include:

- Helping stem the "brain drain" by increasing the placement of Purdue graduates in Indiana businesses.
- Strengthening the competitiveness of Indiana businesses by assisting them in implementing state-of-the-art technologies.
- Improving and protecting Indiana's environment by working with industry and wastewater treatment plants on pollution prevention and operational efficiency.

TAP FUNDING SOURCES, 2003-04

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of Indiana</td>
<td>$1,100,715</td>
</tr>
<tr>
<td>Fees for Services</td>
<td>$380,629</td>
</tr>
<tr>
<td>Total</td>
<td>$1,481,344</td>
</tr>
</tbody>
</table>

Economic Impact Data
May 1986-June 2004

Since 1986, TAP has made a significant impact on Indiana business. A total of 5,758 projects have been completed with partner companies. The results of TAP's work include:

COMPANIES SERVED

TAP faculty, graduate students, and staff worked with 458 companies in 2003-04.

SAVINGS AND INVESTMENTS

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Investments</td>
<td>$63 million</td>
</tr>
<tr>
<td>Cost Savings</td>
<td>$28 million</td>
</tr>
<tr>
<td>Increased Sales</td>
<td>$296 million</td>
</tr>
</tbody>
</table>

EMPLOYMENT

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs Added</td>
<td>1,556</td>
</tr>
<tr>
<td>Jobs Saved</td>
<td>2,560</td>
</tr>
</tbody>
</table>

*Data based on client evaluations of TAP assistance
Griffin Analytical Technologies, Inc.
West Lafayette

COMPANY Griffin Analytical Technologies is leveraging technology developed in Purdue University's top-ranked analytical chemistry department. Griffin has launched an ambitious plan to commercialize its first product, the Minaturized Mass Spectrometer (MMS). The MMS is a small chemical analyzer that shifts the logistics paradigm from sample-to-lab analysis to lab-to-sample analysis. Mass spectrometry provides chemical information for many markets including academic research, pharmaceutical, biotechnological, environmental, consumer product, and petroleum industries. Griffin is focused on expanding mass spectrometry into the areas of defense and homeland security.

CHALLENGE Griffin, a startup company, approached TAP for help with the valuation of the company during Series A round funding.

ACTION TAP introduced Griffin to Charlene Sullivan, associate professor in the Krannert School of Management, and Dyan Zhou, graduate student. The team used accepted techniques to determine the value of the company's technology.

RESULTS The Purdue team's work helped Griffin Analytical with a successful negotiation of Series A financing. This resulted in $2.2 million in investments for the company.

Since 1986, TAP has completed more than 5,700 assistance projects.
Indiana Fish and Wildlife, Avoca

**COMPANY** Indiana Department of Natural Resources, Division of Fish and Wildlife. Southern Fisheries Research at Avoca, Indiana.

**CHALLENGE** Fisheries research biologist Robert Ball (at right) needed help determining the most cost-effective means of conducting a user count on the Wabash River – whether by boat or by air. He asked TAP to analyze previous surveys to determine if the cost of flight counts was justifiable.

**ACTION** TAP put Ball in touch with Regina Becker, manager of Statistical Consulting, and graduate student Craig Johnson, Statistical Consulting, who compared data gathered in the previous study, determined the accuracy of the flight counts, and made recommendations about the flight count validity and the other procedures used in the surveys.

**RESULTS** With TAP’s help, Ball determined that user counts obtained by air were not worth the expense. By dropping that method of obtaining data, the division was able to save a considerable amount of money.

Crane Division, Naval Surface Warfare Center (NSWC Crane)

**COMPANY** NSWC Crane in southwest Indiana is a multi-mission, multi-service product center with both a fleet support and an industrial base mission. It employs over 3,200 military and civilian personnel.

**CHALLENGE** NSWC Crane sought to reduce the cost of naval components by improved processing techniques.

**ACTION** A Crane project engineer contacted TAP with questions about two components supplied to the Navy and supplied samples of the metal components to TAP for analysis and recommendation. TAP put Crane in touch with Mysore Dayananda, professor of materials engineering, who performed microstructure analyses that have been used to implement processing cost reductions.

**RESULTS** The analysis carried out by Dayananda has led NSWC Crane to realize cost savings of $25,000.

**EXPERTISE FOR ANY NEED**

TAP provides up to five days of free consulting on the full range of technical issues, including:

**Advanced Manufacturing**
- Lean manufacturing
- Facility planning
- Process improvements
- Quality systems
- Environmental issues

**Business Management**
- Growth strategies
- Financial evaluation
- Costing systems
- Marketing options

**Information Technology**
- Networking, programming, and parallel processing
- Hardware, software, and ISP assessments
- Broadband infrastructure for communities
- Management of the information technology function

**Product Development and Engineering**
- Design input and review
- Design methods
- Problem solving
- Product evaluation

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

www.purdue.edu/TAP (765) 494-6258
CULTIVATING INDIANA'S

TAP is committed to helping
Indiana employers connect with
Purdue's talented, hardworking,
and highly skilled student
body — and to making
Purdue students aware
of the many career
opportunities available
right here in Indiana.

HIGH TECH JOB FAIR FOR INDIANA COMPANIES

At TAP's annual job fair, Indiana employers meet hundreds of Purdue students studying technology, engineering, management, science, and agriculture. Approximately 1,000 undergraduate and graduate students and 51 businesses attended the 2003 job fair.

Best Access Systems in Indianapolis manufactures and distributes mechanical and electronic access control products. It is part of Stanley Security Solutions, the security division of The Stanley Works. Through the High Tech Job Fair, Best has hired several Purdue graduates and co-op students, such as Tyler Back (BSME '03), pictured at left.

"Purdue has a reputation for turning out highly qualified engineers. The engineers at Best play a crucial role in our success, and we have found that the candidates we meet at Purdue can often meet our needs."

CINDY MINER
Human Resources Manager; Corporate Services
Best Access Systems, Indianapolis

2003 JOB FAIR DATA

<table>
<thead>
<tr>
<th>Businesses in attendance</th>
<th>51</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students in attendance</td>
<td>1,000</td>
</tr>
</tbody>
</table>

ADDITIONAL STUDENT RECRUITMENT RESOURCES

Purdue Center for Career Opportunities
Phone: (765) 494-3981
www.cco.purdue.edu

HIGH TECH JOB FAIR DATES

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 27, 2004</td>
</tr>
<tr>
<td>October 26, 2005</td>
</tr>
<tr>
<td>October 25, 2006</td>
</tr>
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</table>

www.purdue.edu/jobfair
TALENT BASE

SUMMER INTERN PROGRAM

Through the Summer Intern Program, TAP helps Indiana companies connect with innovative, technically savvy, and cost-effective assistance for summer projects. The intern program is also a great way to find future employees.

Hill’s Pet Nutrition, Richmond

During her internship with Hill’s Pet Nutrition, Tiffany Spann developed programs for a packaging palletizer and dehumidifier sensors; created a Total Energy Motor log in Excel; developed an equipment database in Access; and created process picture maps for a variety of equipment.

“Tiffany assisted the plant Technical System Team in delivering several plant improvement projects in the areas of process controls, document controls, and in the development of training materials. She is a team player and fits well in the plant culture.”

PETER THAWNGHUYUNG
Technical Systems Manager
Hill’s Pet Nutrition

Lawson-Fisher Associates, South Bend

At the civil engineering consulting firm of Lawson-Fisher, interns Kim Boner and Scott Richmond assisted in a variety of projects. Their work included field surveying, structural design and quantity calculations on INDOT bridge projects, water quality sampling, and more.

“The significant impact of the Purdue interns is in their overall effort. They are generally conscientious, well focused, team oriented, amenable to taking direction, well founded in engineering fundamentals, eager to contribute, and enjoyable to work with.”

DANIEL R. LAWSON
President
Lawson-Fisher Associates

“During my internship, I learned that it takes more than just engineering to make a successful product.”
TIFFANY SPANN
Electrical Engineering Technology

Also pictured (at right): Zoe Bassey, Mechanical Engineering

“My internship taught me many things related to the technical side of bridge design. I also learned a great deal about professionalism in the office, organization and documentation of our work, and about the lifecycle of a design project and how it is managed.”
SCOTT RICHMOND
Civil Engineering

Also pictured: Kim Boner, Civil Engineering

2004 SUMMER INTERN DATA

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating businesses</td>
<td>34</td>
</tr>
<tr>
<td>Participating students</td>
<td>47</td>
</tr>
</tbody>
</table>
One of the goals set forth in Purdue University's strategic plan is for the University to focus on engagement activities that match Purdue expertise and resources with statewide needs. These partnerships will then grow the state's economy and improve the quality of life for Indiana citizens. Purdue’s economic development partnerships include:

**Office for Continuing Education and Conferences**
Mark Pagano, Dean
mapagano@purdue.edu (765) 496-2321
www.conf.purdue.edu

**Purdue Statewide Technology**
Michael O’Hall, Associate Dean
mtohair@purdue.edu (765) 494-2554
www.tech.purdue.edu

**Purdue Research Park**
Greg Deason, Vice President of Development
gwdeason@purdue.researchfoundation.org (765) 494-8572
www.purdue.researchpark.com

**Purdue Extension**
David Petritz, Director
dpetritz@purdue.edu (765) 494-8489
www.ces.purdue.edu

**Technical Information Service**
Suzanne Ward, Manager
ward@purdue.edu (765) 494-9876
www.purdue.edu/TIS

**Indiana Clean Manufacturing Technology and Safe Materials Institute**
Lynn Corson, Director
corson@purdue.edu (765) 463-4749
www.ecm.purdue.edu/CMTI

**Office of Technology Commercialization**
Simran Tran, Acting Director
strana@purdue.researchfoundation.org (765) 494-6725
www.otc.purdue.edu

**Discovery Park**
Charles Rutledge, Director
cipr@purdue.edu (765) 494-7766
http://discoverypark.e-enterprise.purdue.edu

**High Tech Job Fair for Indiana Companies**
David McKinis
hightech@purdue.edu (765) 494-6258
www.purdue.edu/jobfair
A complete listing of Purdue career fairs is available at: https://www.cco.purdue.edu/CareerFairCalendar.shtml

**Purdue Office of Engagement**
Victor Lechtenberg, Vice Provost for Engagement
vli@purdue.edu (765) 494-9095
www.purdue.edu/engagement

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**Indianapolis Engagement Office**
Tom Carroll, Director
tjcarroll@purdue.edu (317) 275-9303

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**CONTACT US**

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E-mail: tap@purdue.edu

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www.purdue.edu/TAP/update

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