

**SPIR Results Report  
Watson School at Binghamton University  
July 1, 2007 thru June 30, 2008  
And Life of Program**

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***SPIR Results REPORT***  
**Watson School at Binghamton University**  
***July 1, 2007 thru June 30, 2008 and Life of Program***

Overview:

With help from the contributions of current year and previous SPIR technology partnerships, our SPIR company partners have been able to add approximately 30 well-paying jobs in the past year while adding and retaining nearly 2450 since SPIR partnerships commenced in 1995. Most of these jobs have been in the important product development, manufacturing and information technology business sectors. It important to remember that while NOT counted in SPIR job creation or retention performance, on average, a manufacturing job created or retained results in the need for and creation or retention of approximately 2.4 additional jobs to support the service and logistical needs of a manufacturing employee. Approximately one third (800) of SPIR job “saves” or increases have been in the important manufacturing sector. In the July 2007 Public Policy Institute’s “Monthly economic Snapshot of Upstate New York”, The Binghamton region was the only upstate major community to post a positive manufacturing growth performance. SPIR is helping.

During its short lifetime, Binghamton’s Watson School SPIR Center has provided a variety of technology-based assistance to 162 small and mid-sized (less than 500 employees) New York State companies located in eighteen (18) counties. On average, about 20% of the companies served annually are “first-time” SPIR partners. The major part of SPIR’s efforts and resources were expended on 685 projects focused on important, business-proactive engineering extension and problem solving activities for 162 firms spread through Broome County and seventeen (17) other Counties mainly in Central New York/Greater Binghamton region with outlying projects in Buffalo, Rochester, Utica, Syracuse and Ithaca regions. This work was carried out in response to SPIR’s primary mission to assist companies in meeting their business objectives through technology-based partnership projects and to achieve SPIR’s goals of helping partner companies to successfully start-up, stabilize and grow. This is consistent with The University’s mission to support regional economic development.

Binghamton’s SPIR outreach has served our target companies effectively and we are now ready to do more. A reliable, sustained funding stream will enable us to provide more of the same SPIR services with new focus on some additional tasks requested by our past and some potential SPIR partners. Our Binghamton SPIR track record of effective service to our business partners, and the positive economic impact SPIR has had on the Greater Binghamton region and New York State is described below. We hope this will encourage and justify the award of significant increases in the annual SPIR allocation for 2008 and later years for Binghamton and our partner SPIR Centers. SPIR’s target small and mid-sized business community is now convinced of SPIR’s value toward achieving increased stability and growth. The attached statements of testimony from several SPIR partners substantiates SPIR’s impact and value to SPIR’s target company community.

Project Examples:

While SPIR’s engineering extension assistance dealt primarily with hardware and software product development, information technology services, manufacturing line support and in-depth evaluations and improvements of manufacturing operations, SPIR also performed key partnership work involving leading edge manufacturing technology development.

For example, in the past year alone, Binghamton’s SPIR Center continued assistance to Hidden Valley Electronics (HVE) in development of cost effective, new “lead free” manufacturing processes and inspection techniques this enabled the Company to comply with EEU mandated RoHS (Reduction of Hazardous Substances) cutover on July 1, 2006. HVE has agreed to share this essential knowledge with other local manufacturers. This enables HVE and other local exporters of circuit board assemblies to continue doing business with European customers. SPIR’s funding and human resource contributions to these shared manufacturing technology projects will provide a very significant return on this strategic investment.

SPIR also continued work with Buffalo-based NanoDynamics Company to develop a new generation of mechanically and electrically enhanced lead-free solder and adhesive products containing carbon nano-particles. This leading edge development work earned recognition in an article in the February 2006 issue of Electronic News.

Binghamton's SPIR contributions have been given major credit for keeping a regional manufacturer of high precision machined parts in New York State. SPIR stepped in as a result of an urgent call from the Southern Tier Opportunity Coalition (STOC) to give the "at risk" company reason to stay in New York. Through SPIR project work, we did. The company, New Vision Industries, is now moving forward with expansion in Binghamton. SPIR support continues.

In a new technology commercialization partnership with NSC Technologies, a BU Faculty-owned start-up company, SPIR provided funding and engineering graduate students to assist in development of an operational prototype and related manufacturing processes for one of NSC's state of the art chemical, biological and radiological sensors. The prototype, which combines Nano, Sensor and Catalyst technology is to be used to attract venture capital interest and possible start-up of a local NSC production facility.

Through other SPIR project partnerships, we also introduced Sheltered Workshop (SWS) for the disabled and Amphenol Aerospace in Sidney, NY to the manufacturing process improvement and ergonomic analysis software "tools" that were provided as a major gift to the Watson School by UGS Corporation. These projects are providing our SPIR partner companies with more efficient (and more competitive) manufacturing processes while at the same time greatly reducing or eliminating the possibilities of repetitive stress injuries.

Binghamton's SPIR partnership with Country Valley Industries/ACHIEVE, a Frito-Lay product packaging sub contractor and employer of regional disadvantaged employees, enabled the CVI/ACHIEVE team to make a 70 % reduction in quality defects for their high volume packaging line. This reduction earned the CVI/ACHIEVE team the "Frito-Lay Contract Manufacturing Special Recognition Award". CVI/ACHIEVE management was quick to give major credit to The Binghamton SPIR project team for contribution to this remarkable quality defect reduction. This achievement ensures employment opportunities for the entire CVI/ACHIEVE team and a continued opportunity for self-reliance and financial independence for the region's hard-working disadvantaged.

SPIR's successful partnership with PELCO Electronics in Cazenovia, NY led to the "word of mouth" referral by Pelco's management to neighbor Marquardt Ltd., major high volume manufacturer of electrical and electronic switches for the auto industry, hand tools manufacturers and military. SPIR work has been targeted on 5 key improvement areas to continue Marquardt's competitiveness with highly aggressive off-shore manufacturers.

These examples are only a sampling of the variety and importance of SPIR 2007/2008 partnership work and are fairly representative of the diverse project work scope of past years.

The pie charts below show the distribution of project work types for the 07/08 fiscal year and through the SPIR program life.

### Results - Statistics and Metrics

- Since the program began in fall of 1994, SPIR has contributed technology and facilities resources, funding assistance and project management to 685 projects for 162 companies.
- 53 SPIR projects (each 300 person hours or more) were supported during FY 07/08. 15 Companies were served .
- 27 Graduate Students and 13 Faculty Members supported SPIR's mission in FY 07/08.
- To date, Watson School faculty and students have contributed over 205,500 person-hours of technology-related contributions to the companies we help and to the region's economic growth.... a very significant investment of University resources.
- During the past year, employment levels of our SPIR partners have grown by approximately 30.
- An estimated \$97.8 million in wages, *per year* is generated by the approximately 2,480 jobs SPIR has helped our partner companies to create and retain.
- Access to SPIR resources during summer 2007 kept one highly successful manufacturing firm from moving out of New York to escape the otherwise "business unfriendly" environment.

- The “street value” of our SPIR contributions to date is conservatively estimated at over \$24,454,000.
- Since program inception, 655 students and 62 faculty advisors have shared their expertise with partner companies. Both The Watson School Faculty/Student teams and their Company partners have learned from SPIR project collaboration.
- All SPIR companies served in the 07-08 Fiscal Year have continued operations and are more strongly competing for and winning new business.
- With assistance from Binghamton’s SPIR center, our partner companies have attracted more than \$5 million in Federal grants (SBIR) and have successfully achieved the expected technology-based outcomes for the various phases of such grants.
- SPIR has brought over \$6,000,000 to BU’s Watson School through its cumulative annual funding allocations. These funds have provided graduate assistantship funding for the 655 students assigned to SPIR projects and an important attraction for graduate student enrollment.
- From inception to date, SPIR company partners have provided cash and in-kind funding support of SPIR project work in excess of \$17,851,000.

### Results - Company Testimonials:

Please see the letters attached at the end.

### SPIR Student Retention:

As a result of SPIR partnership exposure and high quality work demonstrated by Watson School students, eighteen of them have been hired in, full-time professional positions by several Binghamton Region SPIR partner companies. One former SPIR project student has started his own highly successful business providing “intelligent”, cost saving software to the embroidery industry. The Company President decided to locate his business here to have access to SPIR support.

### SPIR Alliances:

Binghamton’s SPIR center has formed close working relationships with the Watson School’s Integrated Electronics Engineering Center (IEEC), one of SUNY’s elite Center’s for Advanced Technology (CAT). We have developed bilateral relationships with our regional Empire State Development (ESD) Office, our Small Business Development Center (SBDC), The Greater Binghamton Coalition, The Southern Tier Opportunity Coalition (STOC), Synergistic Outreach to Assure Retention (SOAR), Broome Leadership Institute (BLI) and Board membership in the Valley of Opportunity Innovation Initiative (VOII). All of these organizations contribute to creation and retention of companies and jobs, most of which require highly skilled human resources. Our alliance has resulted in numerous referrals to SPIR (and to other alliance partners as appropriate). Binghamton’s SPIR Center and several other alliance members were listed as effective pro-active business assets for the Greater Binghamton region in the recent issue of US Airways in flight magazine.

### SPIR “Clones”:

Binghamton SPIR center’s operations “model” is based on SPIR’s mission to provide accessible, effective and affordable technology-based assistance to small and mid-sized manufacturers and other technology based businesses. This model has enabled our success and the growth of many SPIR partners. We are proud that other technology-based industry support organizations have consulted with SPIR and have adopted a similar operations model. The JumpStart program offered by Cornell Center for Materials Research (CCMR) has expanded the opportunities for small and Mid-sized companies to access Cornell’s and other NY Research centers (CATS) to conduct essential research. Their operations are built around the success and simplicity of the Watson School SPIR model.

### Additional Company Needs:

As Binghamton’s SPIR experience has matured and evolved, we are ready to take on even more of the essential support tasks to enable even higher levels of economic growth. Small and Mid-sized Companies have asked for access to SPIR supported human and equipment resources to help them perform pre-certification testing in order to comply with an ever growing list of DOD, CE, FCC, RoHS and other domestic and off shore certification requirements. Clearly, this will require additional funding resources to maintain our historic levels of company support and our expanded service offerings.

We have also recognized the urgent need for SPIR resources to support a much greater level of technology transfer from BU and external inventors to commercial usage. This will require significant additional funding for graduate level student assistance to develop “concept proven” research technology into a demonstration or prototype level. Wary venture capital investors have made this mandatory if they are to provide venture capital for commercial development or to facilitate a local Company start up. A doubling of Binghamton’s current SPIR allocation to would reasonably support our expanded needs.

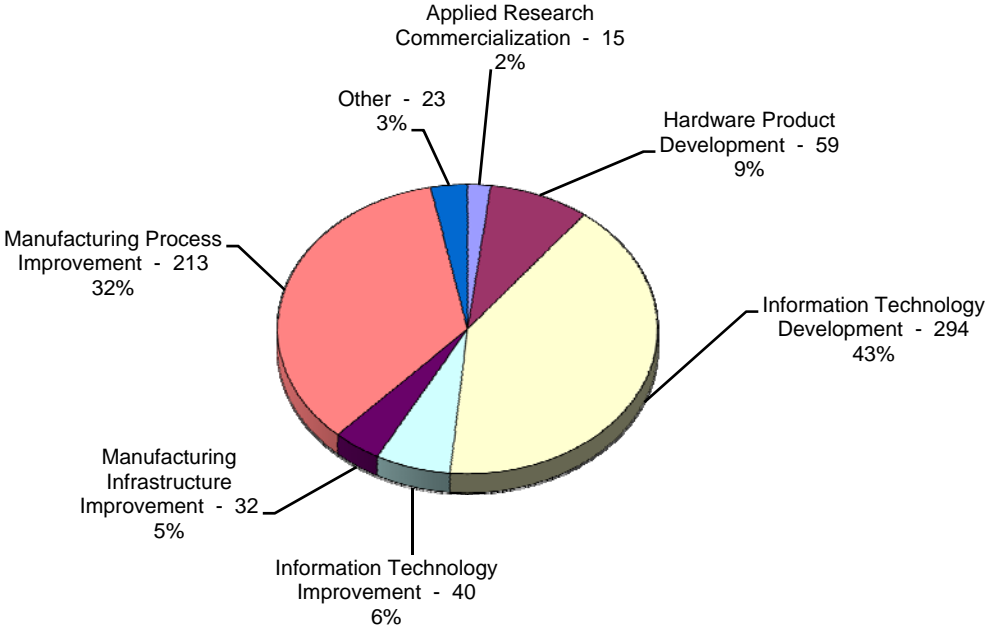
Conclusions:

The stability and growth of our many SPIR partner companies has, once again, confirmed the value of University/ Industry partnership in contributing to regional economic stability and growth. During the past year, SPIR has continued to meet its commitment to serve as a unique small company advocate and source of affordable and accessible technology resource within Binghamton University’s long-established and ever-improving industry support infrastructure.

During the coming years, SPIR will continue as a highly active advocate and partner in University-driven efforts to promote technology-based economic growth by providing engineering and problem-solving services for regional and Greater New York State’s increasingly important small and mid-sized company community. With additional funding the growing list of essential needs requested by our target SPIR partner community can also be met.

Based on our SPIR results to date, it is very reasonable to expect the future reporting of many more SPIR success stories and substantial growth of our regional economy.

**PROJECTS GROUPED BY MAJOR ACTIVITY**  
**October 1995 - June 30, 2008**



## Projects Grouped By Major Activity July 1, 2007 - June 30, 2008

