

21st Century Research and Technology Fund

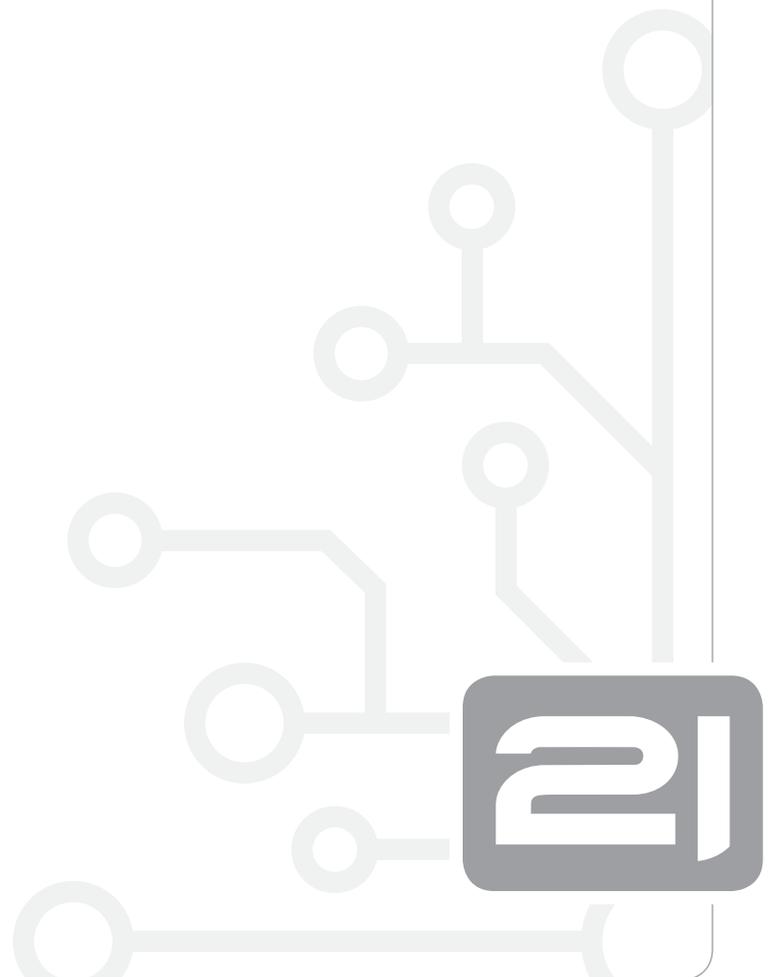
Seventh Report to the Indiana General Assembly
July 1, 2007 – June 30, 2008



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This report is available online at www.21fund.org.



21st Century Research and Technology Fund

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The Indiana 21st Century Research and Technology Fund was created in 1999 by the General Assembly to stimulate the process of diversifying the state's economy by developing and commercializing advanced technologies in Indiana. The 21 Fund was brought under the leadership of the Indiana Economic Development Corporation in 2005.



Indiana Economic Development Corporation

The Indiana Economic Development Corporation (IEDC) is the state of Indiana's lead economic development agency. The IEDC was officially established in February 2005 to support economic development efforts in the state of Indiana, replacing the former Department of Commerce. The IEDC is organized as a public private partnership, governed by a 12-member board of directors chaired by Governor Mitchell E. Daniels, Jr. The IEDC's chief mission is to grow and retain businesses in Indiana and to attract new businesses to the state.



Letter from the Leadership

Dear Legislator:

We are pleased to provide you with the seventh report to the Indiana General Assembly on behalf of the Indiana 21st Century Research and Technology Fund (21 Fund) and the Indiana Economic Development Corporation.

During the past fiscal year, which began July 1, 2007, and concluded June 30, 2008, the 21 Fund made 21 awards totaling \$32,935,705 to Indiana companies to support the development and commercialization of emerging innovative technologies with market-changing potential. Continuing the 21 Fund's expanded emphasis on supporting and growing Indiana's burgeoning life sciences industry, 10 of the awards totaling \$14.6 million were made to companies that are creating ground-breaking technologies in the life sciences or health care fields.

Since being brought under the leadership of the Indiana Economic Development Corporation (IEDC) in 2005, the 21 Fund has invested \$74,600,304 in 58 unique Hoosier companies, including 30 awards to Indiana life sciences companies.

These 58 awards have considerable commercial potential. The most recent projections forecast that the recipient companies could create more than 5,000 new, high-tech, high-skill, high-wage jobs in the next two to five years. In fact, the average salary for the hundreds of new jobs created by the 21 Fund companies so far is more than \$75,000 annually – more than double the state's current average annual wage.

We expect these awards will continue to provide this impressive return on investment, spark exciting new research, and serve as a critical catalyst for the development of products in a wide variety of Indiana industry sectors, including life sciences, advanced manufacturing and information technology.

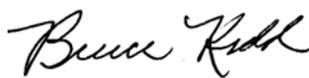
In fiscal year 2007-08, the 21 Fund also made 39 Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Phase I matching awards totaling \$3,677,067 to innovative high-tech Indiana companies. These awards are used by Indiana entrepreneurial companies to help leverage and attract additional federal funds that support innovative research by small high-tech businesses. In addition to the Phase I matches, the IEDC also made four Phase II enhancement awards totaling \$1,263,995 from the newly created Indiana SBIR/STTR Commercialization Enhancement Program (ISCEP). Support from the 21 Fund and the SBIR/STTR programs enable Indiana's small businesses to more successfully compete for broader government funding for innovative processes and products, ultimately leading to more jobs in Indiana.

This report includes a complete list of 21 Fund awards and SBIR/STTR matching awards made in fiscal year 2007-08. In addition, we have included several profiles of Indiana companies that have received 21 Fund and SBIR/STTR awards and are already on their way to developing the cutting-edge products and creating the high-wage, high-tech Indiana jobs of tomorrow.

It is our pleasure to provide you with this report. Please do not hesitate to contact Linda Peterson-Roe, 21 Fund program manager, at the IEDC if you have any questions.



Nathan J. Feltman
Secretary of Commerce



Bruce Kidd
IEDC Director of Entrepreneurship



21st Century Research and Technology Fund Overview

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2007-08 Awards and Activities

In fiscal year 2007-08, Indiana's 21 Fund continued to focus on entrepreneurial ventures that have demonstrated a market potential for commercializing innovative technologies and creating the Indiana jobs of tomorrow.

Created by the Indiana General Assembly in 1999 and brought under the leadership of the IEDC in 2005, the 21 Fund provides financial support to highly innovative Indiana-based technology companies, thereby helping these firms make the transitional leap from general research and development to product development while also creating high-wage, high-skill, high-tech Indiana jobs and diversifying the state's economy.

As Indiana's premiere investor in Indiana-based technology, the 21 Fund in fiscal year 2007-08 awarded grants totaling \$32,935,705 to 21 Indiana companies. Since 2005, the fund has invested \$74,600,304 in 58 unique and innovation-driven entrepreneurial ventures that have considerable commercial

The 21 Fund encourages entrepreneurial success and helps the new Indiana start-ups of today grow into the employers of tomorrow.

potential. Following 21 Fund awards, recipient companies have gone on to raise \$100 million in additional private funding for research, investment, expansion, production and growth.

The 21 Fund's expanding emphasis on Indiana's life sciences industry is underscored by the level of the fund's investment in the life sciences and health care industry sector. In the past fiscal year, 10 of the fund's 21 awards – totaling \$14.6 million – have been made to companies that are creating ground-breaking technologies in the life sciences or health care fields, including earlier detection and treatment of cancer, orthopedic devices, biomedical devices and diagnostic instruments, and other therapeutics. Since January 2005, 30 of the fund's 58 awards have been made to life sciences and health care companies.

In addition to direct grants, the 21 Fund in fiscal year 2007-08 sponsored a variety of functions to educate potential fund applicants, enhance and encourage business and investment partnerships, and raise awareness of the fund's unique investment opportunities.

The 21 Fund co-sponsored Indiana Entrepreneurship & Innovation Day in Indianapolis in November 2007. This event

gave more than 1,000 attendees the opportunity to network with investors, successful peers and innovators and to learn how the fund supports innovative Indiana companies.

The IEDC and the 21 Fund also hosted more than 75 venture capitalists and key Indiana angel investors during the Indiana Innovation Showcase in May 2008. Governor Mitch Daniels and Secretary of Commerce Nate Feltman participated in the day-long event, which gave investors the opportunity to meet and network with representatives from 21 Fund companies and major research universities.

Fund Overview

The 21 Fund seeks technology-based companies conducting business in Indiana and provides financial support to make the transitional leap from early stage research to product development. By supporting high-tech companies by addressing critical funding gaps, the 21 Fund encourages entrepreneurial success and

helps the new Indiana start-ups of today grow into the employers of tomorrow.

The 21 Fund does not focus on a particular technology or application area in selecting awards. This allows Indiana's strengths to identify themselves through

successful completion of the 21 Fund's rigorous review process. Avoiding pre-selection of technology focus areas ensures that the 21 Fund plays a central role in diversifying the state's economy, a goal outlined in the 21 Fund's legislation.

The 21 Fund encourages an environment of innovation and cooperation among Indiana universities and businesses to promote research activity. These partnerships build on the innovation process which converts research ideas into products and creates jobs for Indiana communities.

The 21 Fund also funds the SBIR program office, created to support companies that are applying for or have received federal Small Business Innovation Research (SBIR) and/or Small Business Technology Transfer (STTR) awards.

21st Century Research and Technology Fund Overview

Application and Review Procedures

To qualify for a grant, each company must propose a technology that demonstrates innovation and clear potential commercial impact.

A project must also be ready for commercialization within three to five years and create new jobs and economic development in Indiana. Applicants are required to submit a detailed technical plan and concise business plan to illustrate the project's validity and likelihood of success. The merits of a proposed project are reflected in the thoroughness of the submitted technical roadmap and business plan.

When the IEDC took over management of the 21 Fund in 2005, it made three major changes to the fund's operations and emphases. The IEDC:

- Shifted the focus of the fund's investments from university-industry cooperative research projects to product development and testing initiatives led by high-tech start-up companies;
- Increased the emphasis on job creation as a criterion for making awards; and
- Supplemented the highly respected technical review process with an enhanced business review.

The changes implemented by the IEDC not only affected the 21 Fund's goals and processes, they also influenced the 21 Fund's impact on the state of Indiana in terms of its awards and outcomes.

Potential 21 Fund projects are initially screened by 21 Fund staff. They are then evaluated via a formal peer review process modeled after the National Institutes of Health and the National Science Foundation, directed at assessing the technical and business merits of the proposals.

This peer review involves evaluations by scientists and technology researchers from across the country and world. Now the peer review process also involves economic experts who focus attention on job creation potential and other business-related metrics.

Before becoming awards, proposals that successfully complete the 21 Fund's review process must be evaluated by the Entrepreneurship Subcommittee of the IEDC board and also receive final funding approval from the Indiana State Budget Committee.

Impacts

Since January 2005, the 21 Fund has awarded 58 awards totaling \$74.6 million. Through these awards, the 21 Fund has demonstrated a dramatic shift toward primarily supporting small, entrepreneurial companies. In fact, 95 percent of the \$74.6 million awarded was granted directly to small companies – a stark contrast to the 23 percent of total funds directed to small firms in the years prior to the IEDC's management (1999-2005).

These 58 awards have considerable commercial potential. The most recent projections forecast that the recipient companies could create more than 5,000 new, highly compensated jobs in the next two to five years. A key metric of success to date is that the average salary for the hundreds of new jobs created by the 21 Fund companies thus far is more than \$75,000 annually – more than twice the state's current average annual wage of \$36,553.

The fund concentrates investment in the life sciences industry, but also commercializes awards in aerospace/defense/security, advanced manufacturing/engineering, communications/electronics, energy/environment and information technology. Clearly, the 21 Fund plays a role in diversifying Indiana's economy.

Conclusion

Fiscal year 2007-08 was another year of success and growth for the 21 Fund, as it continued to focus on supporting Indiana entrepreneurial ventures that have demonstrated a market potential for commercialization of innovative technologies.

The fund continues to support activities to foster private investment in the 21 Fund awardees. The 21 Fund has also increased its outreach programs to encourage applications to the 21 Fund from all around the state.

Modification of 21 Fund award criteria and related processes ensure that grant awards have the most positive dramatic impact on recipient companies and generate the highest level of economic activity and job creation for the state of Indiana.

While 21 Fund awards have already created a significant number of jobs with above average earnings in small, high-tech companies, the majority of these projects are still early in their development; therefore, the full weight of their impacts has not yet been felt.

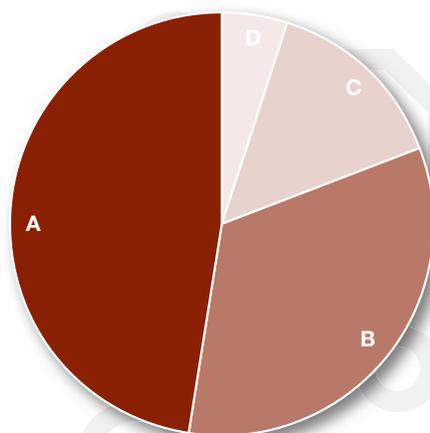
The IEDC looks forward to the year ahead as these current 58 awards continue to flourish and new projects are initiated.

21 Fund Awards Fiscal Year 2007-08

Company	Industry	Award	City	County	Year
ChaCha Search Inc.	Information Technology/Software Development	\$ 2,000,000	Carmel	Hamilton	2007
Cine-tal Systems Inc.	Communications/Electronics	\$ 2,000,000	Indianapolis	Marion	2007
Comfort Motion Technologies LLC	Information Technology/Software Development	\$ 1,085,000	Anderson	Madison	2007
Dealerflow Corporation	Information Technology/Software Development	\$ 1,478,769	Kokomo	Howard	2007
FAST Diagnostics	Life Sciences/Health Care	\$ 2,000,000	Indianapolis	Marion	2008
First Precision LLC	Advanced Manufacturing/Engineering	\$ 1,500,000	Crown Point	Lake	2008
FlowCo Inc.	Life Sciences/Health Care	\$ 2,000,000	Indianapolis	Marion	2007
ImmuneWorks LLC	Life Sciences/Health Care	\$ 1,500,000	Indianapolis	Marion	2007
Indiana Nanotech LLC	Life Sciences/Health Care	\$ 768,715	Indianapolis	Marion	2008
Indigo BioSystems Inc.	Life Sciences/Health Care	\$ 1,530,000	Indianapolis	Marion	2008
Infraware Inc.	Information Technology/Software Development	\$ 871,231	Terre Haute	Vigo	2008
INphoton LLC	Life Sciences/Health Care	\$ 200,000	Indianapolis	Marion	2008
Interactions Corporation	Information Technology/Software Development	\$ 2,000,000	Carmel	Hamilton	2008
Kinetic Art & Technology Corp.	Advanced Manufacturing/Engineering	\$ 1,947,424	Greenville	Floyd	2007
M4 Sciences LLC	Advanced Manufacturing/Engineering	\$ 1,538,624	West Lafayette	Tippecanoe	2007
Merrick Healthcare Solutions LLC	Life Sciences/Health Care	\$ 2,000,000	Crown Point	Lake	2007
My Health Care Manager LLC	Information Technology/Software Development	\$ 1,900,000	Indianapolis	Marion	2008
OBS Medical	Life Sciences/Health Care	\$ 2,000,000	Carmel	Hamilton	2007
ParaPRO LLC	Life Sciences/Health Care	\$ 2,100,000	Carmel	Hamilton	2007
Precise Path Robotics Inc.	Information Technology/Software Development	\$ 1,996,045	Carmel	Hamilton	2007
RestAssured LLC	Life Sciences/Health Care	\$ 519,897	Lafayette	Tippecanoe	2007
Total for Fiscal Year 2007-08		\$ 32,935,705			

Industry Sector Breakdown

- A** Life Sciences/Health Care (10)
- B** Information Technology/Software Development (7)
- C** Advanced Manufacturing/Engineering (3)
- D** Communications/Electronics (1)



SBIR/STTR Overview

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2007-08 Awards and Activities

Indiana's SBIR/STTR programs continued to stimulate technological innovation and provide opportunities for Indiana small business to participate in federally funded Research and Development (R&D) in fiscal year 2007-08.

These two competitively awarded, three-phase programs match qualified Indiana small businesses with opportunities to propose innovative ideas that meet specific research and development needs of the federal government. These programs stimulate technological innovation, increase private sector commercialization of federal R&D, increase small business participation in federally funded R&D, foster participation by minority and disadvantaged firms in technology innovation, and provide collaborative opportunities for entrepreneurial small businesses at the nation's top colleges and universities.

The SBIR program is the primary provider of assistance to Indiana companies interested in pursuing SBIR/STTR funding. Specific services provided to Indiana companies participating in the federal SBIR/STTR programs include: topic matching; SBIR/STTR counseling; proposal assistance; proposal and technical review; training; and Phase I Award Matching and Phase II Award Enhancement Program.

The 21 Fund matches any SBIR/STTR Phase I awards won by Indiana companies. In fiscal year 2007-08, the IEDC made 39 Phase I matches totaling \$3,677,067. In addition to the Phase I matches, the IEDC also made four Phase II enhancement awards totaling \$1,263,995 from the newly created Indiana SBIR/STTR Commercialization Enhancement Program (ISCEP).

In just five years, the Phase I matching program has increased the transition rate from Phase I into Phase II for high-tech small Indiana companies from between 20 percent to 30 percent to nearly 50 percent, and each Phase II award is worth roughly 10 times the amount of the initial Phase I award.

In an effort to acquaint small businesses with the SBIR/STTR process, the SBIR program office hosts a variety of workshops and seminars across the state throughout the year. Each workshop or seminar addresses topics such as: introduction to the SBIR/STTR process; Phase I and II proposal writing techniques;

writing successful cost proposals; developing successful commercialization plans; government accounting; and defense contract audit agency audits.

Program Overview

The SBIR/STTR programs provide qualified small businesses with opportunities to propose innovative ideas that meet R&D needs of the federal government.

The programs are the largest source of early-stage technology funding in the United States. They target the entrepreneurial sector because that is where innovation thrives. The programs are driven by solicitations that publish topics addressing the technological needs of the participating agency.

The federal set-aside for the SBIR/STTR programs totals approximately \$2 billion in R&D funding for small businesses annually.

After the submission of proposals, federal agencies make awards based on the evaluation of the submission against a set of key criteria points. Small businesses that receive awards begin a three-phased program: the feasibility phase, the prototype phase, and the commercialization phase.

In 2005, the IEDC established an independent SBIR program office as a focused effort to increase Indiana's participation in the federal SBIR/STTR programs, to develop the full commercial potential of small Indiana businesses, and to support the growth of Indiana's high-technology workforce

The SBIR and STTR programs provide qualified small business with opportunities to propose innovative ideas that meet R&D needs of the federal government.

through the creation of high-skill, high-wage jobs.

The goals of the SBIR program office are to increase the number of Phase I SBIR/STTR awards to Indiana entities; increase the transition rate of Indiana SBIR/STTR Phase I awards into Phase II and Phase III awards; and increase statewide awareness of these federal programs. These efforts ultimately will lead to more high-paying, high-technology jobs in Indiana.

SBIR/STTR Overview

To help ensure the success of small, high-tech businesses in Indiana, the SBIR program office provides the following services:

- Proposal Assistance – Phase I and II
- SBIR/STTR Counseling
- Proposal and Technical Reviews – Phase I and II
- Support Letters to Federal Agencies – Phase I and II
- SBIR/STTR Enhancement Program

Since inception, the IEDC SBIR program initiative has built a client list of 323 companies. In fiscal year 2007-08, these companies utilized a variety of IEDC services, including participation in 43 Proposal Assistance requests; 29 Proposal Reviews; four Technical Reviews, 134 Phase I Support Letters; and seven Phase II Support Letters.

The SBIR program office also distributes a monthly electronic newsletter, Tech Talk. Tech Talk is an important source of up-to-date SBIR/STTR information, including: agency updates, solicitation information, a calendar of events, helpful hints, and a variety of success stories.

Indiana Procedures

Upon initial contact with a company of interest, Indiana's SBIR program office provides detailed information to company officials about the SBIR/STTR programs.

The SBIR program office then holds one-on-one discussions to evaluate and assist each company in determining its level of technological innovation, proposal preparation skills, qualifications of the team, level of support needed, and readiness of the company as a whole to participate in the SBIR/STTR programs. This process ultimately leads to a collaboratively defined SBIR/STTR project development strategy for the company and an implementation program that may include one or more of the SBIR/STTR programs' services.

The SBIR program office also assists qualified applicants in preparing Phase I and/or Phase II SBIR/STTR proposals by providing assistance with proposal writing and formatting, effective team building, the electronic submission process, and detailed process outlining. The SBIR program office also provides proposal and technical reviews that ensure proposal content articulation, flow, and formatting of late-stage proposals.

In addition to these proposal preparation services, the SBIR program office provides support to companies that have received

Phase I or Phase II SBIR/STTR awards through the SBIR/STTR Enhancement Program. This program involves two separate funding initiatives: The 21 Fund SBIR/STTR Phase I matching program; and the ISCEP, a competitive program to support the commercialization of new products and services created through SBIR and STTR research and development projects by enhancing Phase II SBIR/STTR awards. Phase II applicants may request an official IEDC SBIR/STTR support letter indicating the potential to compete for the Phase II enhancement funds.

To date, the ISCEP has awarded four Phase II enhancement awards, with an additional two companies in negotiations, totaling approximately \$2 million.

The 21 Fund Phase I matching program, which has been in existence since January 2003, is utilized to increase the numbers and competitiveness of Indiana SBIR/STTR proposals. The program provides an opportunity for companies to expand on their Phase I R&D to increase the likelihood of a transition from Phase I to Phase II. It provides companies with a dollar-for-dollar match of federal SBIR/STTR awards up to \$100,000. Phase I applicants may request an official IEDC SBIR/STTR support letter indicating to federal agencies the existence of the Phase I matching program.

Conclusion

The IEDC's SBIR/STTR programs reflect a concerted state effort to increase Indiana's participation in the federal programs, to develop the cutting-edge commercial potential of Indiana's small businesses, and to support the growth of Indiana's high-technology workforce through the creation of high-skill, high-wage jobs.

Indiana's effort is paying off. From 2004 to 2006, the amount of federal money awarded to Indiana companies through the programs increased by 35 percent, from \$16.3 million in 2004 to \$22 million in 2006.

High-skill jobs developed through the assistance of the IEDC's SBIR/STTR programs often exceed the statewide annual wage. The realignment of the focus of the 21 Fund and the enhancements of Indiana's SBIR/STTR efforts through the creation of the SBIR program office represent major steps toward strengthening Indiana's commercial landscape and increasing the number of high-skill, high-tech jobs in Indiana.

SBIR/STTR Awards Fiscal Year 2007-08

Phase I Matches

Company	Award	City	County	Funding Agency
Adiabatics Technologies Inc.	\$ 99,756	Columbus	Bartholomew	DoD
Advanced Science and Automation Corp.	\$ 100,000	Indianapolis	Marion	NSF
Agri Processing Services LLC	\$ 79,219	Carmel	Hamilton	USDA
Akina Inc.	\$ 100,000	West Lafayette	Tippecanoe	NIH
Computelligence LLC	\$ 99,710	Indianapolis	Marion	DoD
CreateAbility Concepts Inc.	\$ 75,000	Indianapolis	Marion	DoE
Criterion Health Inc.	\$ 99,942	Terre Haute	Vigo	NIH
En'Urga Inc.	\$ 100,000	West Lafayette	Tippecanoe	NSF
Gabriel Interactive Inc.	\$ 25,000	Indianapolis	Marion	NIH
General BioTechnology LLC	\$ 100,000	Indianapolis	Marion	NIH
GH LLC	\$ 100,000	West Lafayette	Tippecanoe	NSF
Hans Tech	\$ 100,000	West Lafayette	Tippecanoe	NSF
Imaginestics LLC.	\$ 100,000	West Lafayette	Tippecanoe	DoD
Indiana Nanotech LLC	\$ 100,000	Indianapolis	Marion	NIH
Information In Place Inc.	\$ 100,000	Bloomington	Monroe	NSF
Jabiru Software & Services	\$ 99,576	West Lafayette	Tippecanoe	NASA
Microtech Inc	\$ 100,000	Indianapolis	Marion	DoD
MNB Technologies Inc.	\$ 79,578	Bloomington	Monroe	DoD
MNB Technologies Inc.	\$ 99,958	Bloomington	Monroe	DoD
Moerae Matrix Inc.	\$ 100,000	West Lafayette	Tippecanoe	NIH
Molecular Kinetics Inc.	\$ 100,000	Indianapolis	Marion	NIH
Molecular Kinetics Inc.	\$ 100,000	Indianapolis	Marion	NIH
Mudawar Thermal Systems Inc.	\$ 69,980	West Lafayette	Tippecanoe	DoD
Omega Wireless Solutions Inc.	\$ 69,965	West Lafayette	Tippecanoe	DoD
PartTec Ltd.	\$ 100,000	Bloomington	Monroe	DoE
PartTec Ltd.	\$ 100,000	Bloomington	Monroe	DoE
PC Krause & Associates Inc.	\$ 99,904	West Lafayette	Tippecanoe	DoD
PC Krause & Associates Inc.	\$ 80,000	West Lafayette	Tippecanoe	DoD
PowerHouse Proteomic Systems LLC	\$ 100,000	Zionsville	Boone	NIH
Predictive Physiology and Medicine Inc.	\$ 100,000	Bloomington	Monroe	NIH
Predictive Physiology and Medicine Inc.	\$ 100,000	Bloomington	Monroe	NIH

Phase I Matches cont.

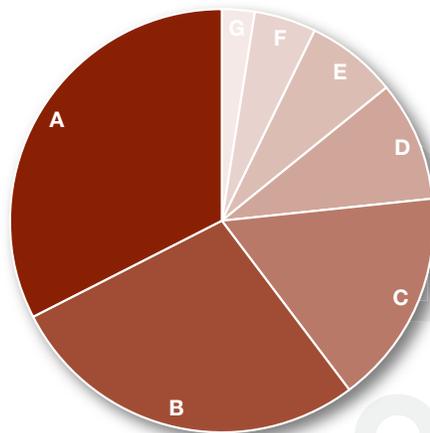
Key:

DoD	Department of Defense	NIH	National Institute of Health
DoE	Department of Education	NSF	National Science Foundation
NASA	National Aeronautics & Space Administration	USDA	United States Department of Agriculture
USAF	United States Air Force		

SBIR/STTR Awards Fiscal Year 2007-08 *(continued)*

Company	Award	City	County	Funding Agency
Quadraspec Inc	\$ 100,000	West Lafayette	Tippecanoe	NIH
Techshot Inc.	\$ 99,982	Greenville	Floyd	DoD
Techshot Inc.	\$ 99,961	Greenville	Floyd	DoD
Victor Technologies LLC	\$ 99,980	Bloomington	Monroe	USAF
VitaCyte LLC	\$ 100,000	Indianapolis	Marion	NIH
Vyante Inc.	\$ 100,000	Indianapolis	Marion	NSF
Wolf Technical Services Inc.	\$ 99,803	Indianapolis	Marion	USAF
Yinnel Tech Inc	\$ 99,753	South Bend	St. Joseph	DoE
Total for Fiscal Year 2007-08	\$ 3,677,067			
Phase II Enhancement FY08				
Granger Engineering, LLC	\$ 349,982	Granger	St. Joseph	NSF
Kinetic Art and Technology Corp	\$ 267,553	Greenville	Floyd	NASA
SonarMed, Inc	\$ 350,000	Indianapolis	Marion	NIH
Wolf Technical Services, Inc.	\$ 296,460	Indianapolis	Marion	USAF
Total for Fiscal Year 2007-08	\$ 1,263,995			

- A** National Institute of Health (14)
- B** Department of Defense (12)
- C** National Science Foundation (7)
- D** Department of Education (4)
- E** Air Force (3)
- F** National Aeronautics & Space Administration (2)
- G** United States Department of Agriculture (1)



Company Profiles

The following pages include success stories about some high-tech Indiana companies that have received 21 Fund awards and SBIR/STTR awards.



Ash Access Technology Inc.

21 Fund Award Recipient-SBIR/STTR Award Recipient

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Ash Access Technology Inc. is a leading developer of pharmaceutical and medical devices specializing in the treatment and prevention of diseases and disorders stemming from vascular access.



Headquartered in Lafayette, Ash Access provides products which help to reduce catheter-related bloodstream infections (CRBSI). These infections can occur when a catheter is inserted into a patient and provides a pathway for bacteria to migrate into the bloodstream. According to the Centers for Disease Control and Prevention, in the United States alone there are 250,000 cases of CRBSI resulting in \$2.3 billion in healthcare costs annually.

Ash Access received a \$2.1 million award from the 21 Fund in June 2006 which was supplemented by a previous \$2.7 million federal SBIR grant. The 21 Fund award helped the company to conduct pre-commercialization trials of its Zuragen® Injection, which fights the bacteria that causes CRBSI. This injection will be the first-to-market antimicrobial/antithrombotic drug/device capable of non-specifically killing suspended bacteria and eliminating and inhibiting biofilm growth within catheters, thereby preventing CRBSI. The product has the potential to positively impact several healthcare markets where catheter use is common, including hemodialysis, chemotherapy and intravenous nutrition.

The company is also developing a series of catheters including the Ash Advance™, which is used in hemodialysis and was market cleared by the FDA in June 2007; BaXcath™, an antimicrobial catheter impregnation product; and Ash MaxFlow™, a catheter to be used for peritoneal dialysis.

Ash Access was founded by Robert Truitt and Dr. Stephen Ash in 2003 as a spin-off from HemoCleanse Inc. In addition to the 21 Fund award, the company has received \$6 million in funding from angel investors and \$2 million in venture capital funding. The company is currently raising \$12 million in a Series C financing, and it projects the creation of 100 Indiana Jobs by 2010.



A large, stylized number "21" in white, set within a dark grey rounded square. The "21" is composed of thick, blocky lines. This logo is part of a larger graphic at the bottom of the page that includes a circuit-like pattern of grey lines and circles.

Cine-tal Systems Inc.

21 Fund Award Recipient

Cine-tal Systems Inc. is an Indianapolis-based company that develops and manufactures image processing and display technology for use in production and postproduction of cinema, television and video.

The company's Cinemage high-definition monitor enables production crews on set to apply color processing instantly for preview purposes without permanently changing the raw image data. The real-time application ensures that what is captured on the set can be processed in postproduction to meet the desired look of the director and cinematographer.

Cine-tal received a \$2 million 21 Fund grant in 2007 to further develop and market its Cinemage product line. Since that time, the company has increased its staff by 50 percent and moved into a new, larger facility where it has begun product manufacturing and development operations. By the end of 2008, Cine-Tal is anticipating the introduction of five new products.

The 21 Fund grant has allowed the company to make big impacts on the world of cinematography. Cine-Tal has acquired industry icon customers like Pixar, DreamWorks and Warner Brothers. Millimeter magazine called Cinemage a "Pick Hit" and Digital Content Producer magazine named Cinemage one of its top 10 products.

Although the company initially launched Cinemage to studios in Los Angeles and Chicago, it is now shipping nearly 60 percent of its products to international markets.

As the company continues its rapid growth in product innovation and job creation, an estimated 100 new employees will be added over the next five years adding to Indiana's high-skill, high-wage workforce.

Cine-tal



ParaPRO LLC

21 Fund Award Recipient-SBIR/STTR Award Recipient

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ParaPRO LLC is a Carmel-based specialty pharmaceutical company focused on acquiring, developing and commercializing proprietary products for pediatric specialty markets.



ParaPro's first drug in development, NatrOVA™, is a revolutionary product for the treatment of head lice, which causes school children to miss between 12 million and 24 million school days worldwide each year. NatrOVA™ is a creme rinse containing a family friendly formula that is lethal to the parasite.

NatrOVA™ contains Spinosad, a compound that is effective in controlling lice without manual removal of the insects and eggs. NatrOVA™ will be the world's first head lice treatment that kills lice and nits (eggs) with a single, simple treatment. The market for this product exceeds \$600 million worldwide and approximately \$240 million in North America.

Spinosad was originally discovered by Indianapolis-based Eli Lilly and Company. The worldwide product rights were licensed to ParaPRO in 2002 to develop and market the compound for the control of lice in humans.

ParaPro was awarded a \$2.1 million grant from the 21 Fund in July 2007 to complete phase three clinical trials for NatrOVA™. After NatrOVA™ has completed clinical trials and is approved by the FDA, ParaPro expects the product to go to market in late 2009.

ParaPRO is a wholly owned subsidiary of SePRO Corp., a management-owned life sciences business started by Bill Culpepper, a former employee of Eli Lilly and Dow AgroSciences. Started in 1994 with five employees, SePRO has grown to 59 employees, 41 of whom are based in Indiana. ParaPro projects the creation of 85 Indiana jobs by 2012.



Therametric Technologies Inc.

21 Fund Award Recipient-SBIR/STTR Award Recipient

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Therametric Technologies Inc. is an Indianapolis-based developer of tools aimed at providing dentists and patients with an early warning of dental decay.

Therametric is focused on the development of new innovative technologies for the detection and prevention of dental caries and other preventable dental diseases. Caries are the most prevalent chronic disease for both children and adults, according to the National Institute of Dental and Craniofacial Research. The most recent National Health and Nutrition Examination Survey found that 92 percent of adults ages 20 to 64 and 42 percent of children ages 2 to 11 have had dental caries in their permanent teeth.

In June 2006, the 21 Fund awarded Therametric Technologies a \$646,000 grant to be used to conduct final trials on the company's Caries Detection System.

This system uses light fluorescence from a wireless handheld probe to detect dental caries by analyzing changes in the mineral content of tooth enamel. The system's probe relays data and images to a computer with software pinpointing sites of impending decay. This will allow trouble spots to be identified up to two years earlier than using today's common visual and x-ray examination methods.

Therametric Technologies is led by former Indiana University researcher Dr. George Stookey, who holds more than 40 U.S. and foreign patents.

In addition to the support provided by the 21 Fund, Therametric obtained follow-on funding from the National Institutes of Health and the universities of Iowa and Texas to conduct the final trials of its device. Therametric projects that it will create 45 new jobs in Indiana by 2010 as a result of the development and commercialization of the Caries Detection System.



Akina Inc.

SBIR/STTR Award Recipient

Akina Inc. is a research-based company that specializes in designing novel nutraceutical, pharmaceutical and biomedical products.

Located in West Lafayette, the company is designing the future of drug delivery systems. Akina manufactures Frosta® nutraceuticals including Powercal, ForteCal and FlaxFit fast dissolve tablets. Frosta® enables the use of drugs that are in an aqueous solution. Because production of the Frosta® fast-melting tablets is not any more expensive than making conventional tablets, the processing technology can be used for almost any drug or dietary supplement.

Akina research projects include delayed swelling hydrogels, which are used as novel tissue expanders due to their ability to start swelling after predetermined lag time, biodegradable ureteral stents, and a novel method of generating injectable, controlled-release microparticles. Akina also performs research for customers on a contract basis and sells research products, including PolyShield block copolymers comprised of PEG and biodegradable block polymers.

Akina has received federal funding for an SBIR Phase I project for its hydrogel tissue expander. This funding was secured with the assistance of the IEDC SBIR program.

Akina has utilized the SBIR program office for several services in the past two years, including SBIR proposal assistance for Phase I and Phase II, proposal reviews, support letters, and a Phase I award.

Akina is currently in the process of expanding its microparticles research project and will continue to expand as needed. As the company's business and revenues grow, so will its Indiana workforce.



CreateAbility Concepts Inc.

SBIR/STTR Award Recipient

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CreateAbility Concepts Inc., a high-tech manufacturing firm located in Indianapolis, develops assistive technology to help bridge the gap between an individual's natural ability and what they need or would like to do.

CreateAbility Concepts develops technology to assist people with vocational or educational disabilities to live more independently. Company products enable people with special needs to independently perform more tasks at work, home and school and actively participate in daily living activities.

The company integrates small, wireless, battery-operated sensors and special application software to provide customers with the ability to detect and monitor events remotely and receive real-time activity or status reports through a mobile device, cell phone, smart phone or pocket personal computer.

Company products include SoundAlert, a centralized system capable of alerting people who are deaf or hearing impaired of critical sounds in their environment; SSIMPLE, a speech and switch input mobile phone that enables person-to-person communication; and Talking Tags, which allows individuals with visual impairment to quickly identify objects and locations.

The IEDC SBIR/STTR proposal review service enabled CreateAbility Concepts to win two SBIR Phase I awards in 2008. CreateAbility Concepts has also been awarded four Phase I matches for SoundAlert, SSIMPLE, TalkTags and HearingCompanion. The Phase I matches helped the company reduce financial risk and bridge the gap between the end of Phase I and the start of Phase II development.

The SBIR/STTR awards will bring CreateAbility Concepts one step closer to beating competitive alternatives from companies in other states.



Criterion Health Inc.

SBIR/STTR Award Recipient

Criterion Health Inc. is a specialty services company that provides consulting services to health and behavioral health providers, hospitals, employers and government.

Located in Terre Haute, Criterion Health provides clients with a variety of business solution choices in its service array – from brief consultations to turnkey client-centered products delivered to an organization. The company has evolved the 3-D Development Process®, an efficient process that assures the company deliverables will be useful and used.

Criterion Health operates under the assumption that system change requires vested ownership and opportunities for input to assure that new ideas are integrated into existing health and behavioral health systems. The company's 3-D Development Process® model incorporates the effective use of client resources together with Criterion's expertise so that the final product has value and local ownership.

Company employees represent a blend of disciplines that include psychology, law, finance, accounting, business operations and business development.

Criterion Health has assembled a professional team with extensive experience managing and operating private and state health systems, managed care organizations, hospital corporations, physician practice organizations, community mental health centers, trade groups and service organizations.

The assistance provided by the SBIR office has enabled Criterion Health to obtain funding on the company's first SBIR submission for LifterMate, a transfer device to help wheelchair users who cannot transfer or have difficulty transferring independently.

The Phase I matching program enabled Criterion Health to extend and enhance the Phase I project beyond that specified in the original proposal. This in turn helped the company strengthen its Phase II proposal. Finally, company officials attended a series of workshops, hosted by the IEDC, which provided invaluable information about intellectual property protection and cost accounting.

The SBIR award has helped Criterion Health to continue to bring performance accountability and extensive research capabilities to its projects and products to assure maximum value and on-time delivery.



Predictive Physiology and Medicine Inc.

SBIR/STTR Award Recipient

Predictive Physiology and Medicine Inc. (PPM) is an innovator in individualized health and wellness consumer products. The Bloomington-based life sciences company is responding to consumers who are frustrated with the current healthcare system and are searching for products and services that empower them to manage their own health.

PPM's first product, a comprehensive health and wellness assessment based on a single blood draw, provides consumers with more individualized health knowledge than currently available. Powered by the strength of PPM's molecular bioprofile capability, the assessment covers eight areas of health that can be improved through positive lifestyle changes.

The assessment measures an individual's level of health and provides specific information for development of a personalized wellness plan. Once the plan is implemented, individuals can repeat the assessment to discover if they have changed their molecular bioprofile – which signals improvements in their health and wellness. PPM's assessment is the best tool for consumers to manage health and wellness, which enables them to plan their health future.

As a growing, second-stage company, PPM relies on resources like the IEDC SBIR program office. Working with the program's staff during the last two years enabled PPM to secure Phase I SBIR and Phase I STTR funding. The program also provided support letters, proposal assistance and additional financing.

The \$700,000 in SBIR/STTR funding provided the financial support PPM needed to build out its science- and informatics-based platform. PPM recently submitted its first Phase II SBIR proposal with assistance from the IEDC SBIR program office. PPM received its highest score ever on a SBIR proposal.

A 2004 spin-out of Indiana University, PPM plans to release its first product later this year and double its workforce in the next 18 months.

PPM
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