



ARKANSAS
SCIENCE & TECHNOLOGY
AUTHORITY



2010 Annual Report

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Letter from the Chairman and President

Dear Governor Beebe & Distinguished Legislators:

The Board of Directors and staff are pleased to submit to you the Authority's 2010 Annual Report. This report is a summary of the scientific and technological projects by which the Authority carries out its mission to advance the talent and innovation necessary for Arkansas to prosper. To that end, the Authority Board approved five new strategic goals for the new biennium beginning in Fiscal Year 2010.

These include ensuring the availability of the next generation of Arkansans with science, technology, engineering and mathematics skills necessary for a competitive 21st century workforce, maximizing the production of scientific and engineering talent and research innovations as building blocks for the 21st century economy, investing in research innovations that build knowledge-based industries for Arkansas's 21st century economy, strengthening Arkansas companies' capacity to innovate, create wealth, expand knowledge-based jobs and compete globally, and extending science and technology expertise to take advantage of emerging opportunities in partnership with other programs, services and organizations.

In Fiscal Year 2010, the Authority, through its EPSCoR Project, reached out to school teachers and their students, providing them with the tools necessary to succeed. For the teachers, this meant access to professional development workshops, networking conferences, minigrants for classroom materials and access to online lesson plans. For the students, this meant involvement in exciting new learning opportunities like mentoring programs at the university level, robotics competitions, and field projects involving everything from environmental studies to crime scene investigation.

In addition, for a second year, the Authority helped to fund the Arkansas Louis Stokes Alliance for Minority Participation, a collaborative alliance of eight institutions across the state of Arkansas that focuses on increasing the pool of underrepresented minorities in STEM disciplines in the Arkansas workforce.

The Arkansas ASSET Initiative provides funding for the development of innovations in wireless nanosensor technology and plant-based bio-production, two emerging fields with potential for regional and national significance, as well as major economic development potential. In Fiscal Year 2010, these funds helped researchers develop technology like nanosensors that can record brain activity and transmit the data to a remote receiver unit, as well as development of plant-based bio-production innovations that will help grow larger vegetables in a shorter period of time.

The Authority also matched federal funding for several projects in Fiscal Year 2010. This included a Center for Applied Technology which will focus on research in areas ranging from geosciences and cyberinfrastructure, to clean, sustainable energy, and matching funds for the Arkansas Space Grant Consortium, a federally funded program designed to raise awareness of NASA projects on university campuses.

Cutting-edge research will keep Arkansas competitive in the 21st century economy. With that in mind, the Authority invested over a million dollars in the Arkansas Research Alliance in Fiscal Year 2010 to entice some of the finest researchers on the planet to come to our state and develop technologies that will ensure Arkansas's legacy as a research and development powerhouse.

It is this kind of research that can evolve into products with enough global market potential to launch companies. This is the heart of the Authority's economic development endeavors, a dual objective to help companies innovate, as well as create high-paying, knowledge-based jobs. In the past fiscal year, the Authority facilitated this effort by providing grants for technology transfer and development as well as tax credits and seed capital investments. This has made it possible for Authority clients to tap into federal funding sources for the development of new technologies, to test innovations for market viability, and to improve existing products and services. In Fiscal Year 2010, Authority clients obtained federal funding just shy of \$10 million. The money will be used to create innovations ranging from high-tech applications used in military aircraft to the development of a hand-held device that can diagnose brain trauma.

Through programs like Arkansas Manufacturing Solutions, the Authority was even able to assist our clients in marketing these innovations and making new strategic partnerships. The Arkansas Innovation Marketplace, for

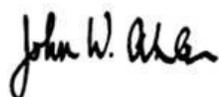
example, is an online web portal designed to match inventors, innovators and other tech-based companies with potential investment partners from around the world.

Perhaps most importantly, the development of client technology has spurred the creation of new jobs. In Fiscal Year 2010, our clients used Authority awards to translate federal dollars into new high-tech, high-paying positions within their companies. As Arkansans fill these positions, they will be empowered to compete and prosper on a global scale, thus meeting the demands of a rapidly changing knowledge-based economy.

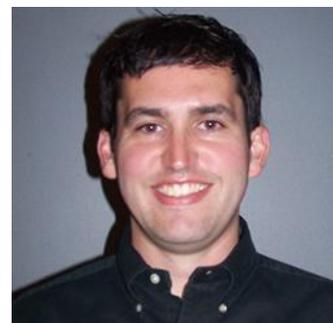
At the close of our fiscal year a new partnership was forged between the Arkansas Science & Technology Authority and the Office of Health Information Technology. The Authority received a subgrant award from the Department of Finance and Administration to support and help launch the new office. It will be placed with and operate within the Authority, being administratively housed at the new Authority facilities located at 900 West Capitol Avenue in Little Rock.

The Arkansas Health Information Exchange Project is the collaborative effort of public and private stakeholders to plan a technology-based, secure Health Information Exchange system that will improve the health care experience for patients, providers and insurers.

With over a quarter century of service to the people of our state, the Arkansas Science & Technology Authority has been energized by a new mission. Here at the dawn of a new decade, we stand ready to advance the talent and innovation necessary for Arkansas to prosper, to prepare our state to meet the demands of the 21st century global economy and ensure a brighter future for all Arkansans.



John W. Ahlen
President



George Williams
Chairman

About the Authority

The Arkansas Science & Technology Authority (the Authority) was created by statute in 1983. The mission of the Authority is to advance the talent and innovation necessary for Arkansas to prosper.

With a vision to see Arkansas prepared to compete and prosper in the global economy, the Authority addresses strategies to promote scientific research, technology development, business innovation and math, science, and engineering education.

The Authority's staff is led by the President, the chief executive officer, who is responsible for the agency's programs, services and support functions. The Authority's activities are divided into three programmatic areas that include research and commercialization, sponsored projects and industry. The Board determines the allocation of funds to all projects supported by the Authority. Three Board standing committees, comprised exclusively of members of the Board, make recommendations to the full Board. Advisory Committees, comprised of Board and non-Board members, offer additional input to the Authority.

In Fiscal Year 2010, the Authority reiterated six values as the foundation for serving the state of Arkansas. The Authority will:

1. Be accountable to Authority stakeholders.
2. Be honest and ethical.
3. Value and promote Authority products and services.
4. Be creative and objective in order to improve the organization and staff.
5. Treat all with respect and dignity.
6. Value diversity among Authority staff and our customers.

As part of the next biennium, the Authority identified five new goals in Fiscal Year 2010.

1. Ensure the availability of the next generation of Arkansans with science, technology, engineering and mathematics skills necessary for a competitive 21st century workforce.
2. Maximize the production of scientific and engineering talent and research innovations as building blocks for the 21st century economy.
3. To invest in research innovations that build knowledge-based industries for Arkansas's 21st century economy.
4. Strengthen Arkansas companies' capacity to innovate, create wealth, expand knowledge-based jobs and compete globally.
5. Extend science and technology expertise to take advantage of emerging opportunities in partnership with other programs, services and organizations.



Sponsored Projects

From High-Tech Teaching Models and Cutting-Edge Science to Nanotechnology and Plant-Based Bioproduction: How the Authority's Sponsored Projects Are Impacting the State.

In Fiscal Year 2010, the Arkansas Science & Technology Authority furthered the impact of research in Arkansas.

As part of an ongoing focus on STEM professional development, the Arkansas Science & Technology Authority used generous educational grants from the Winthrop Rockefeller Foundation to provide professional development workshops for teachers across the state. For example, in Fiscal Year 2010, the Authority and the ASSET Initiative funded a workshop called "Technology for Inquiry-Based Learning Southwest."

The workshop, presented by the Southwest Education Service Cooperative, was attended by teams of teachers from 10 different school districts in southwest Arkansas. The focus of the workshop was to provide equipment and training to prepare middle school science teachers for more advanced and relevant student activities. Using digital microscopes and camera kits containing software and lenses, teachers were shown how to capture images, display them on a computer or projector, and create time lapse videos. Once the teachers were familiar with the equipment, they completed examples of inquiry-based hands-on activities that they can use in the classroom.

Like the workshops, the Engaging America's Talent Conference was about how to improve STEM Education. But instead of focusing on the teachers, this conference was all about the kids. The focus was on making STEM subjects exciting to America's young talent and preparing them for the 21st century workforce.

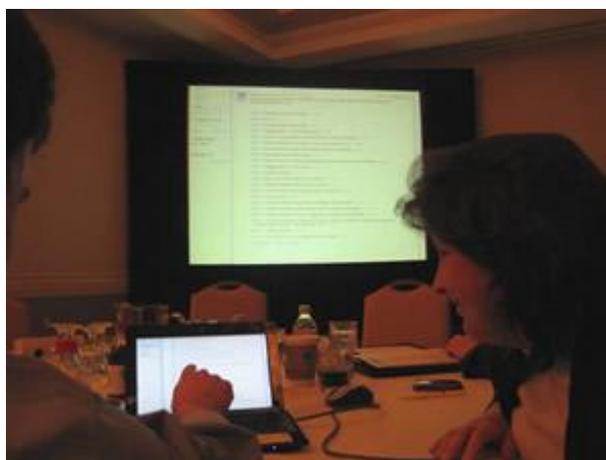
During the three-day conference, presenters from around the country demonstrated ways of engaging students with different examples of interactive learning. From digitally logging near-extinct ladybugs and discovering pulsars in deep space to holding robotics competitions and hosting crime scene investigation summer camps, the consensus was clear.

The best way to engage the kids is to abandon the traditional in-class model in favor of going high-tech, interactive, and literally "into the field." The feedback on the event was resoundingly positive. So much so, that Dr. Gail McClure, Vice President Sponsored Projects and Director of Arkansas EPSCoR, was called to Washington in May to report on the success of the conference.

If the Engaging America's Talent Conference was about reaching kids in a language they can understand, the Communicating Science Conference was about reaching the rest of us. The conference featured combined general sessions for two groups: researchers and their communications officers. For the research professionals, the conference focus was about simplifying language they use in presenting their finding to make it easier to communicate with the general public and the media. For the communications officers, the conference provided insight into new ways of promoting the findings, using social media engines like Facebook and Twitter to spread the message.

In terms of communicating the science involved in cutting-edge research, the Arkansas Experimental Program to Stimulate Competitive Research (EPSCoR) had plenty of material to work from in Fiscal Year 2010. This federal program is funded by the National Science Foundation and managed at the state level by the Authority. As part of that management role, the Authority is responsible for overseeing the ASSET (Advancing and Supporting Science, Engineering and Technology) Initiative, a multi-institutional, interdisciplinary, statewide project which focuses on two specialty areas developing in Arkansas: Plant-Based Bioproduction (P3 Center) and the Wireless Nanosensor and Systems (WiNS) Research Center.

In the past year, the research at the P3 Center demonstrated exciting new discoveries. Among them, findings that showed how seeds exposed to carbon nanotubes sprouted two times faster than control seeds, signifying a



Attendees use Google Buzz to give real-time feedback on panel presentations made during the Engaging America's Talent Conference.

growth enhancement that also increased the mass of the crops being tested. The research could have significant potential on agriculture as well as plant-based biofuel production.

At the WiNS Center, researchers produced equally provocative results. WiNS research in Fiscal Year 2010 has focused on detecting and “wireless” transmission of critical physiological data for future use in medical care. This includes development of nanosensor-coated neural probes that can be implanted in the brain to send brain activity data to a remote receiver unit. This process would revolutionize patient care as medical professionals could use the technology to monitor a patient’s vitals while the patient is at home.

In addition, researchers reported a major systems engineering success this year with the news that they can now successfully detect and discriminate between biological signals and internal background noise within the body. This will make it possible to produce more accurate results from tests like an electrocardiogram, which monitors the electrical activity within the heart, and transmit that information to remote receiver units.

At a Glance - Sponsored Projects

EPSCOR

The Arkansas Experimental Program to Stimulate Competitive Research (EPSCoR) is federally funded and managed at the state level by the Arkansas Science & Technology Authority. The Authority coordinates the various EPSCoR programs available for Arkansas researchers, supports the activities of the Arkansas EPSCoR Advisory Committee, and directly manages the state's National Science Foundation (NSF) EPSCoR Project.

Resolution Number	Resolution Date	Company/Organization	Total Dollar Amount
Resolution 10-03	7/17/2009	UAF	\$18,000
Resolution 10-10	9/18/2009	UAF/ASU	\$36,000
Resolution 10-11	9/18/2009	UALR/ASU/UAF	\$336,660
Resolution 10-12	9/18/2009	UALR/ASU/UAF/UCA	\$529,237
Resolution 10-13	9/18/2009	UALR/ASU/UAF	\$19,000
Resolution 10-14	9/18/2009	UALR/UAF	\$68,103
Resolution 10-15	9/18/2009	UALR	\$12,000
Resolution 10-17	9/18/2009	UALR/ASU/UAF	\$2,934,409
Resolution 10-22	11/20/2009	UCA	\$18,450
Resolution 10-25	1/15/2010	UAF/ASU/UCA/UALR/UAM/HSU/UAPB/Hendrix College	\$58,371
Resolution 10-39	5/21/2010	Minnick & Associates	\$15,000
Resolution 10-40	5/21/2010	UALR	\$25,000
Resolution 10-41	5/21/2010	UAF	\$70,000
Resolution 10-42	5/21/2010	UALR	\$6,882
Total: 14			\$4,147,122

Winthrop Rockefeller Foundation Awards

Winthrop Rockefeller Foundation Awards fund the STEM Teacher Empowerment Program, which assists teachers and students with inquiry-based hands-on learning activities that improve critical thinking skills in STEM classrooms.

Resolution Number	Resolution Date	Company/Organization	Total Dollar Amount
Resolution 10-04	7/17/2009	UALR	\$77,651
Resolution 10-21	11/20/2009	UAF/UALR/UCA	\$83,318
Resolution 10-26	1/15/2010	UAF/UALR/UCA	\$47,975
Resolution 10-31	3/19/2010	UAF/Mid-South Community College	\$20,000
Resolution 10-38	5/21/2010	UALR	\$70,000
Resolution 10-37	5/21/2010	UCA	\$18,700
Resolution 10-39	5/21/2010	Minnick & Associates	\$35,000
Total: 7			\$352,644

Number of Awards	Program	Total Dollar Amount
151	Minigrants	\$75,500
12	STUART Grants	\$72,000
46	STEM Teacher Grants	\$88,600
8	BEST Robotics	\$14,000
Total: 209		\$250,100

Funding Minority Scholarships, Research Innovation, Cyberinfrastructure and Knowledge-Based Job Creation: How Authority Research Projects Are Blazing a Trail in Arkansas's 21st Century Economy.

In Fiscal Year 2010, the Authority invested \$70,000 of General Revenue Funds for the second year of the Arkansas Louis Stokes Alliance for Minority Participation (ARK-LSAMP) to match a project awarded by the National Science Foundation. The Arkansas Louis Stokes Alliance for Minority Participation is a collaborative alliance of eight institutions across the state of Arkansas which has a goal of increasing the pool of well qualified baccalaureate, masters-level and doctoral degree graduates. The focus of the Alliance is to target underrepresented minorities and steer them toward STEM disciplines. Participating institutions include: Arkansas State University (ASU), Philander Smith College (PSC), Pulaski Technical College (PTC), Southeast Arkansas College (SEARK), University of Arkansas, Fayetteville, (UAF), University of Arkansas at Little Rock (UALR), University of Arkansas at Monticello (UAM) and University of Arkansas at Pine Bluff (UAPB).



Scholarship students attend a Louis Stokes Alliance Luncheon on the campus of UALR.

The \$70,000 Authority award, following the same model used in the NSF-funded ARK-LSAMP proposal, was distributed based on the number of minority students in STEM majors at each institution. UAPB was given the highest number of slots (16) due to the high number of underrepresented students on its campus and PSC was given two additional slots (for a total of eight) based on its historically Black College heritage. Authority funds were used by ARK-LSAMP campuses for second year scholarships, travel to professional research meetings and research stipends/hourly wages to work in faculty research laboratories.

UALR also received matching funds in the amount of \$222,653. The money will be matched with \$590,000 provided by NASA to fund a five-year grant that will be used to raise awareness of NASA projects taking place on university campuses.

An additional \$668,008 released by the Governor from the General Improvement Fund was used to match the first year of a three-year award from the National Science Foundation for Cyberinfrastructure for Transformational Scientific Discovery in Arkansas and West Virginia (CI-Train). The Center for Applied Technology will build on common research in geosciences, virtual environments, and computational sciences. The goals are to create a nationally competitive computation and visualization environment, to provide visualization display devices at each partnering institution, and to procure a suite of hardware and software for data capture and content creation that can enable a broad range of research and education activities across several science and engineering domains. The consortium seeks to build the needed cyberinfrastructure to advance the frontier of knowledge in scientific domains, and to transform information technology services for enabling discovery and innovation.

One million four hundred thousand dollars was awarded to ASU Jonesboro to establish a "Center for Efficient and Sustainable Use of Resources" (CESUR). Funding of the Center will help speed the development of a graduate program in the College of Engineering.

Additionally, this investment will be leveraged with programs designed to support the needs of faculty working in focus areas, existing graduate programs in Environmental Sciences, and research and development partnerships with several governmental agencies and private firms (e.g., Nordex, Nice Pak, USDA Agricultural Research Service) coming to the region. It is anticipated that this Center for Applied Technology will facilitate the development of expertise necessary to create knowledge-based jobs and generate federal funds to provide new research and technology transfer space for CESUR.

Finally, the Arkansas Science & Technology Authority invested over \$1 million in the Arkansas Research Alliance, an organization dedicated to maximizing Arkansas's ability to participate in the 21st-century economy. By recruiting university scholars with a track record of performing research and incubating and commercializing businesses, the organization's goal is to increase the number of competitive knowledge-based jobs for Arkansans.

At a Glance - Research

The Research Match Program

The Research Match Program supports basic and strategic research by providing the state match for federal agency awards to Arkansas colleges and universities.

Resolution Number	Federal Agency	Company/Organization	Match Amount Awarded	Date Awarded	Total Amount
Resolution 10-28	NSF	UAPB	\$70,000	1/15/2010	\$70,000
Resolution 10-32	NASA	UALR	\$222,653	5/21/2010	\$662,653
Total: 2					\$732,653

Centers For Applied Technology

The Centers for Applied Technology Program supports university participation in basic and applied research in technological areas having significant potential for economic growth in Arkansas.

Resolution Number	Programs	Company/Organization	Date Awarded	Total Amount
Resolution 10-16 & Resolution 08-41	Centers	Cyberinfrastructure Center (FY10: Connect Arkansas & CI TRAIN; FY08: UAMS Telehealth Carryover)	9/18/2009	\$1,086,632
Resolution 10-27	Centers	ASU	1/15/2010	\$1,400,000
Total: 3				\$2,486,632

Project ID	Federal Agency	Institution	Project Title	Amount Awarded	Date Awarded	Total Amount
10-CAT-01	NSF EPSCoR Track II	UAF	CI-TRAIN	\$668,008	1/15/2010	\$1,336,016
Total: 1						\$1,336,016

Arkansas Research Alliance

Arkansas research universities will participate in identifying respected and esteemed candidates for the ARA Scholars program. Scholars will be experts in their respective fields and will be recognized as leaders with outstanding research credentials and entrepreneurial records. Scholars will oversee research programs that will bring economic vitality to Arkansas through commercialization and business development.

Resolution Number	Company/Organization	Date Awarded	Total Amount
Resolution 10-36	Arkansas Research Alliance	5/21/2010	\$1,050,000
Total: 3			\$1,050,000

Research and Commercialization

From New Start Ups to Established Companies: How Authority Clients Are Expanding the Knowledge-Based Sector and Creating High-Tech, High-Paying Jobs in Arkansas.

In Fiscal Year 2010, the Authority approved numerous tax credits for clients, as well as awards for technology transfer, technology development and seed capital.

Prominent stand-outs of Authority research and commercialization came in the form of established clients receiving federal awards and long-time client NanoMech showing how focusing on innovation and steady growth can create the kind of high-tech, high-paying jobs that are vital to Arkansas's ability to prosper in a global economy.

Freshman client Transparent Visibility was approved for a seed capital investment to develop a product line of services utilizing radio-tag technology, while established clients like Arkansas Power Electronics Incorporated, NanoMech, SFC Fluidics and Space Photonics all received federal contracts to support research and development of their products and services.

Congressional funding totaling \$3 million was awarded to Arkansas Power Electronics International Incorporated (APEI, Inc.) to support the development of Silicon Carbide Power Modules for the F-35 Joint Strike Fighter.

Springdale-based NanoMech received a contract worth an estimated \$770,000 from the Office of Naval Research to work on a new lubricant additive called NanoGlide.

Space Photonics, Inc received a \$1.2 million contract from the Department of Defense to produce fiber-optic communication systems, as well as heat resistant components specifically designed for military and commercial aircraft.



The space shuttle Atlantis blasts off in November carrying high speed fiber optic transceivers created by Space Photonics for use on the International Space Station.

A contract was awarded to SFC Fluidics, which received \$5 million to develop a hand-held device for rapid diagnosis of traumatic brain injury.

Ultimately, these are just pieces to a larger puzzle of how Arkansas will translate such advancements into economic prosperity. So, how will tax incentives, development grants, seed capital and federal funding complete the picture and make a dramatic impact on our state's economy?

For the answer, you need only look at NanoMech of Springdale, Arkansas.

An Authority client of 13 years, NanoMech has charted steady growth, high-tech job creation, and the development of innovations that has allowed the company to compete in a global niche market.

Between 1996 and 2008, NanoMech leveraged Authority programs to generate continued success. The Authority awarded the company an applied research grant which translated into two National Science Foundation Awards totaling \$420,000. In addition, NanoMech utilized Authority Technology Transfer Assistance Grants to receive \$1.3 million in Small Business Innovation Research Awards.

By 2008, the company had grown to include a new subsidiary company called Duralor. Duralor is a producer of high-performance coatings and coating processes for cutting tools and machine-wear parts.

Through Duralor, NanoMech was able to generate another million dollars in early-stage risk capital to expand operations of the new company. This culminated in the groundbreaking ceremony for a new Duralor facility in the Springdale Technology Park in 2008. By the time of the ribbon-cutting a year later, they'd generated another \$410,000 in grants from the Department of Defense.

So, how has NanoMech generated consistent success? In a word: jobs.

By creating companies like Duralor that are run by professionals in high-tech, high-paying knowledge-based positions, Nanomech has built a solid foundation of research and engineering technology supported by four Ph.D.s, four Masters Level professionals, and eight additional support staff with Bachelor's degrees.

When you consider that the average salary of a Duralor employee is \$84,000 a year, the Authority's mission to advance the talent and innovation necessary for Arkansas to prosper comes into razor-sharp focus.

Higher education in science and engineering generates the kind of talent that produces innovations that will keep Arkansas competitive on the world stage, providing a new economic model for employment growth and overall success.

And newer clients are getting the message by following in NanoMech's footsteps.

Arkansas Power Electronics International, for instance, opened its doors in 2002. In eight years, they've grown from to a staff of over 30 knowledge-based professionals. The average salary is over \$50,000 a year and in 2010, the company received a \$3 million award from the Department of Defense that will lead to creation of more than 25 new high-tech engineering jobs at the company over the next three years.

So, whether a new company or established firm, Authority clients are generating real-world examples of how the Arkansas Science & Technology Authority's focus on research and commercialization will ensure the future economic wellbeing of our state.

At a Glance - Research and Commercialization

Research & Development Tax Credit Program

The R&D Tax Credit Program provides incentives for university-based and in-house research and research and development in start-up, technology-based enterprises.

Resolution Number	Resolution Date	Company/Organization	Total Amount
Resolution 10-09	9/18/2009	2 firms (for full list see index on pg. 25)	\$821,524
Resolution 10-30	3/19/2010	9 firms (for full list see index on pg. 25)	\$1,300,999
Resolution 10-35	5/21/2010	6 firms (for full list see index on pg. 25)	\$621,022
Total: 3			\$2,743,545

The Technology Development Program

The Technology Development Program (TDP) provides assistance in the development and commercialization of new technology-based products and processes through innovative technology development projects.

Resolution Number	Resolution Date	Company/Organization	Total Amount
Resolution 10-01	7/17/2009	Soy Pectin, Inc.	\$50,000
Resolution 10-06	9/18/2009	Vegrandis	\$50,000
Total: 2			\$100,000

The Seed Capital Investment Program

The Seed Capital Investment Program (SCIP) fosters the development of innovative technology-based businesses and projects that will stimulate economic growth and industrial competitiveness in Arkansas.

Resolution Number	Resolution Date	Company/Organization	Total Amount
Resolution 10-02	7/17/2009	Unityware	\$44,000
Resolution 10-07	9/18/2009	BlueInGreen (withdrawn)	\$150,000
Resolution 10-08	9/18/2009	VSSB (withdrawn)	\$150,000
Resolution 10-18	11/20/2009	Capsearch (withdrawn)	\$100,000
Resolution 10-24	1/15/2010	Equity Net	\$50,000
Resolution 10-29	3/19/2010	Transparent Visibility	\$100,000
Resolution 10-23	5/21/2010	Duralor	\$250,000
Total: 7			\$844,000

The Arkansas Risk Capital Matching Fund

The Arkansas Risk Capital Matching Fund (ARCMF) works to strengthen and advance the financial infrastructure that supports and accelerates the growth of technology-based enterprises in Arkansas.

Resolution Number	Resolution Date	Company/Organization	Total Amount
Resolution 10-05	7/17/2009	Risk Capital Matching Fund	\$750,000
Total: 1			\$750,000

The Technology Transfer Assistance Grant Program

The Technology Transfer Assistance Grant Program (TTAG) assists Arkansas enterprises in developing or improving products or processes through the transfer of technical solutions to tech-based, industry-driven problems, thus enhancing that enterprise's market competitiveness.

Resolution Number	Resolution Date	Company/Organization	Total Amount
Resolution 9-27	5/15/2009	70 firms (for full list see index on pg. 26)	\$255,625
Total: 1			\$255,625

From Peaking Performance and Training Efficiency to Cutting Costs and Increasing Sales: How AMS Is Serving Clients' Bottom Line.

For Arkansas Manufacturing Solutions (AMS), Fiscal Year 2010 was a year that demonstrated the effectiveness of their programs across the board.

Using AMS processes, companies like Ozark Biomedical benefited from a boost in sales. Since opening its doors in 1998, the company has grown from a three person garage-based operation to a facility with 29 employees touting business partnerships in all 50 states and in 15 countries around the world.



A bank of centrifuges at the Ozark Biomedical Headquarters.

With a focus on streamlining operations, Ozark Biomedical consulted with AMS to ensure its processes and production were operating at peak performance. By aligning company procedures with AMS's ISO 9001 certification, Ozark Biomedical began seeing measured improvements. They attracted new and larger customers, resulting in increased sales of 7 to 10 percent. As a result of implementing AMS strategies, Ozark Biomedical is on track to save a minimum of \$25,000 on implementation and training.

For some clients like FM Corporation it isn't about the sales, but the bills. Established in 1980, the Beebe-based company makes injection-molded plastic parts that are manufactured on a

made-to-order basis by a workforce of 150 employees. Concerned with their rising energy cost, the firm attended AMS's "Energy Assessment 101" seminar. This led to a partnership with the firm and an AMS energy assessment that targeted nine energy efficiency measures (EEMs) that have the potential to save FM Corporation as much as \$50,000 per year. In addition to those savings, AMS was able to save FM Corporation an additional \$8,000 in Fiscal Year 2010 by utilizing Industrial Assessment Center resources funded by the Department of Energy.

Of course, for most businesses, a company is only as good as its people. This is a concept AMS client Anchor Packaging of Paragould, Arkansas understands all too well. Using AMS resources to improve how staff members are trained, Anchor Packaging, a manufacturer of foodservice packaging for the restaurant, supermarket and food processor industry, continued a four-year agreement with Arkansas Manufacturing Solutions.

Providing Lean Manufacturing training and Kaizen support for the Anchor Packaging team, AMS processes made a significant impact on the effectiveness of the company workforce, 150 strong. When continued growth and expansion over the years prompted the company to look for ways to manage the challenge of training new and existing employees to meet demand, AMS delivered with the Training Within Industry (TWI) program. The results were profound. TWI made it possible to train 20 of Anchor's key personnel in 30 percent less time. Lack of frustration among trainers and employees led to a boost in morale, a reduction in turnover by 20 percent, a 15 percent decrease in errors made by new employees and overall improved quality which reduced total costs by 5 percent.

So whether it was people, power or profit from sales, AMS shined in Fiscal Year 2010, delivering the bottom line results that increased sales and profits, cut costs and improved client processes.

At a Glance - Industry

In Fiscal Year 2010, AMS field staff completed **256** projects and events, and served **296** manufacturing companies representing **21** different industries.

	Total
Companies Assisted	296
Jobs Retained and Created	938

Substance	Number of Projects
Client Assessment Services	15
Training	40
Lean Projects Suite	21
Quality Projects Suite	30
Growth Services Product Suite	6
Sustainability Services Suite	37
Strategic/Business Management/Planning Services Suite	6
Technology Services/Product Development Suite	7
Financial Analysis/Assistance Services Suite	66
Sales/Marketing/Business Development Services Suite	10
Engineering Services/Plant Layout	17
Total:	255

AMS Grants Received	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Save Energy Now	\$50,000	\$5,117	\$13,625	\$0	\$0
Energy Efficiency Arkansas	\$90,000	\$826	\$15,145	\$396	\$21,487
Energy Clearing House	\$217,740	\$0	\$0	0	\$4,109
Total	\$357,740	\$5,943	\$28,770	\$396	\$25,596

State Funding	Total Match	Match Breakdown					
		Federal	State Agencies		Universities	Non Profits	Clients
			ASTA	AEDC			
\$257,182	\$3,455,290	\$941,110	\$111,760	\$1,827,103	\$579,278	\$202,066	\$372,351
Leverage Ratio							13.4

Health Information Technology

Authority to Support the Office of Health Information Technology

In fiscal year 2010, the Arkansas Department of Finance and Administration was awarded a State Health Information Exchange Cooperative Agreement from the U.S. Department of Health and Human Services to support the establishment of health information exchange (HIE) capacity among health care providers and hospitals in Arkansas. The effort will establish and implement appropriate governance, policies, and network services within the broader national framework to rapidly build capacity for connectivity between and among health care providers. As part of the state's continuing HIE efforts, Governor Mike Beebe signed an executive order creating the Arkansas Office of Health Information Technology (HIT) to implement the Arkansas exchange.

The Governor's Executive Order initially places the Arkansas Office of Health Information Technology within the Arkansas Science & Technology Authority, which has received a subgrant award of \$8,514,974 from the Department of Finance and Administration to launch and support the new operations. It is anticipated that the Office of Health Information Technology will become a formal state entity established by legislation to be considered by the General Assembly during the 2011 regular session.

The Arkansas Health Information Exchange Project is the collaborative effort of public and private stakeholders to plan a technology-based, secure Health Information Exchange system which will improve the health care experience for patients, providers and insurers.

Like many other states, Arkansas was moved to create the office by federal support made available by the Congressional passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act, included in the American Recovery and Reinvestment Act of 2009. Earlier work in Arkansas established portions of the framework that will be used as the basis for statewide health information technology.

In addition to administratively housing the new office, a representative from the Authority will join the Arkansas Health Information Exchange Council created by the Executive Order.



The fifteen-member council, made up of representatives from 10 other state agencies, will serve as an advisory body to the Arkansas Office of Health Information Technology, the State Coordinator for Health Information Technology and the Governor. In addition, it will monitor the operation and performance of the Arkansas State Health Alliance for Records Exchange (AR-SHARE), as well as support the goals of the HIT office.

The state and federal goal for the Health Information Exchange system will ultimately allow health information to follow individuals whenever and wherever they engage the health care system. The ultimate goal is to improve access and quality of health care services, reduce inefficiencies and avoidable costs, and create better health outcomes, thus creating a safer, more-efficient health care system for all Arkansans.

Committee/Board Affiliations

The staff of the Authority continues to stay visible throughout the education, scientific, technological and economic development communities by gubernatorial appointments and statutory involvement on various boards and commissions.

Gubernatorial Appointments	Who Serves
Governor's Workforce Cabinet	President
Southern Technology Council	President

Statutory Affiliations	Who Serves
Arkansas Capital Corporation	President
Arkansas Tobacco Settlement Commission	President
Arkansas Biosciences Institute	President
Commission for the Coordination of Educational Efforts	President
Arkansas Broadband Council	President
Cyberinfrastructure Task Force	President
Information Network of Arkansas	Executive Vice President
Distance Learning Coordinating Council	Vice President Sponsored Projects
Arkansas School for Mathematics, Sciences and the Arts	Vice President Research

Other Professional Affiliations	Who Serves
Arkansas Health Information Exchange Executive Committee	President
Connect Arkansas	President
Venture Capital Investment Trust	President
UALR EIT Industry Council	Vice President Industry
NSF EPSCoR Program Director's Council	Vice President Sponsored Projects
Steering Committee, Arkansas Technology Task Force	Vice President Sponsored Projects
Executive Committee, STEM Coalition	Vice President Sponsored Projects
College of Science and Mathematics Advisory Board, UALR	Vice President Sponsored Projects
Arkansas Space Grant Consortium	Vice President Research

Operations Report

Fiscal Year 2010						
General Operations	Actual					
Character	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Regular Salaries	\$619,907	\$161,608	\$162,766	\$132,601	\$130,472	\$587,447
Extra Help	\$12,000	\$1,754				\$1,754
Maintenance and Operations	\$186,832	\$42,298	\$28,615	\$27,416	\$84,542	\$182,869
Fringe Benefits	\$178,174	\$44,299	\$44,595	\$39,219	\$38,548	\$166,660
Research (Reallocation)						
Conference Fees and Training	\$27,223	\$1,542	\$589	\$1,525	\$10,511	\$14,166
Professional Fees	\$16,800	\$5,739	\$2,761	\$2,871	\$5,429	\$16,800
Capital Outlay	\$0					\$0
Marketing and Redistribution	\$0					
Technology Development	\$156,975	\$26,250	\$23,225	\$100,000	\$7,500	\$156,975
Research Matching Fund	\$292,653			\$70,000	\$222,653	\$292,653
Seed Capital Investments	\$292,653		\$125,000	\$75,000	\$92,653	\$292,653
TOTAL	\$1,783,217	\$283,490	\$387,550	\$448,631	\$592,307	\$1,711,978
AMS Support	Actual					
Character	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
AMS Support	\$257,182			\$79,265	\$177,917	\$257,182
Seed Capital Fund	Actual					
Character	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Seed Capital Fund Balance	\$1,900,000			\$44,000	\$32,347	\$76,347
AMS Operations	Actual					
Character	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Regular Salaries	\$146,194	\$39,267	\$35,447	\$26,785	\$28,007	\$129,506
Maintenance and Operations	\$174,976	\$21,221	\$36,302	\$15,973	\$49,984	\$123,480
Fringe Benefits	\$42,668	\$10,828	\$10,167	\$8,601	\$8,764	\$38,361
Grants	\$415,000	\$82,475	\$69,106	\$36,230	\$109,582	\$297,393
Conference Fees and Training	\$31,066	\$3,256	\$3,478	\$6,885	\$5,129	\$18,748
Professional Fees	\$55,000	\$290		\$19,025	\$162,850	\$182,165
Capital Outlay						\$0
Field Services	\$1,122,849	\$156,273	\$230,656	\$175,659	\$163,883	\$726,472
Miscellaneous Fees						\$0
TOTAL	\$1,987,753	\$313,611	\$385,156	\$289,159	\$528,199	\$1,516,124
AR Industrial Energy Clearinghouse	Actual					
Character	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Maintenance and Operations	\$70,250	\$0	\$0	\$0	\$400	\$400
Grants	\$147,490	\$0	\$0	\$0	\$3,709	\$3,709
TOTAL	\$217,740	\$0	\$0	\$0	\$4,109	\$4,109

Operations Report

Fiscal Year 2010 (continued)						
EPSCoR Operations	Actual					
Character	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Regular Salaries	\$153,981	\$41,358	\$41,786	\$35,853	\$36,547	\$155,545
Maintenance and Operations	\$106,183	\$8,688	\$32,826	\$19,831	\$5,844	\$67,190
Fringe Benefits	\$39,025	\$10,053	\$10,187	\$9,120	\$9,202	\$38,563
Conference Fees and Training	\$3,333	\$270	\$3,063			\$3,333
Professional Fees	\$46,667	\$6,150	\$2,789		\$26,440	\$35,378
Grants	\$3,415,963	\$194,440	\$746,348	\$96,305		\$1,037,093
Grants (GIF)kbmd50p	\$2,466,334	\$48,074	\$749,523	\$17,809	\$760,781	\$1,567,893
TOTAL	\$6,231,486	\$309,033	\$1,586,523	\$178,919	\$838,814	\$2,904,995
Engaging America's Talent	Actual					
Character	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Maintenance and Operations	\$98,400				\$98,400	\$98,400
Professional Fees	\$1,500				\$1,500	\$1,500
TOTAL	\$99,900	\$0	\$0	\$0	\$99,900	\$99,900
General Improvement Funds	Funds	Actual				
Project	Released	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Nanoscale Science & Engineering		\$350,000				\$350,000
Cyberinfrastructure Center	\$318,624	\$318,624				\$318,624
Risk Capital Matching Fund		\$750,000				\$750,000
AR Research Infrastructure	\$1,050,000				\$6,400	\$6,400
Centers for Applied Tech	\$1,500,000			\$8,294	\$329,832	\$338,125
ASU-Center for Bio-Fuels	\$1,400,000			\$1,400,000		\$1,400,000
Cyberinfrastructure-UAF	\$668,008			\$668,008		\$668,008
Cyberinfrastructure-UAMS	\$100,000				\$100,000	\$100,000
Nanotechnology Center		\$800,000				\$800,000
TOTAL	\$5,036,632	\$2,218,624	\$0	\$2,076,302	\$436,232	\$4,731,158
Grants Received	Budget	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Winthrop Rockefeller Foundation Science Grant	\$0					\$0
Winthrop Rockefeller Foundation Entrepreneurial Grant	\$76,426					\$0
Winthrop Rockefeller Foundation Transition Grant	\$7,770	\$7,770				\$7,770
Winthrop Rockefeller Foundation Models for Growth Grant	\$217,000	\$1,175	\$80,959	\$81,088	\$15,135	\$178,358
Winthrop Rockefeller Foundation SMART Grant	\$109,312	\$247	\$4,184	\$83,660	\$47,715	\$40,376
Winthrop Rockefeller Foundation STEM Grant	\$234,888	\$80,144	\$4,698	\$140,103	\$161,803	\$386,748
WRF TOTAL	\$645,396	\$89,336	\$89,842	\$304,851	\$129,223	\$613,251
AT&T Accelerator Grant 2008 -- STEM	\$0					\$0
AEDC Energy Efficiency 2008 -- AMS	\$90,000	\$825	\$15,145	\$396	\$21,487	\$37,854
AEDC Save Energy Now 2008 -- AMS	\$50,000	\$5,117	\$13,625			\$18,742

Board of Directors

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Director of Business Development
Intellimation Technologies
Jonesboro
Authority Executive Committee
Term Expires 2011

Heartsill Ragon, III - Vice Chair

Attorney
Gill Elrod Ragon Owen & Sherman, PA
Authority Research and Commercialization Committee Chair
Term Expires 2011

Beverly Dawkins Lyn-Cook, Ph.D. - Secretary

Senior Research Scientist
Division of Personalized Nutrition and Medicine
Branch: Pharmacogenomics and Molecular Epidemiology
National Center for Toxicological Research (NCTR)
Term Expires 2013

Collis Geren, Ph.D.

Vice Provost for Research/Dean of Graduate School
University of Arkansas, Fayetteville
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Term Expires 2013

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City Director/Vice Mayor, Fort Smith
Term Expires 2013

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Manager, NDE for Washington Group Int'l
Term Expires 2012

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Executive Associate to the Chancellor for Diversity
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Associate Dean
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Term Expires: 2014

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CEO
Caldwell Media LLC
Term Expires: 2012

Dennis Teague

Owner
Dennis Teague Chevrolet
Term Expires: 2011

New Faces

STAFF

(from left to right)

Annetta Massanelli
Beren Dehaven



INTERNS

(from left to right)

Jeremy Lusk
Andrea McShane
Donna Hobbs



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Research & Development Tax Credit Program

Resolution Number	Fiscal Year	Company	Total Credit
10-09	2010	Litmus, L.L.C	\$420,716
10-09	2010	Space Photonics, Inc.	\$400,807
Total: 2			\$821,524

Resolution Number	Fiscal Year	Company	Total Credit
10-30	2010	Arkansas Power Electronics International, Inc.	\$486,349
10-30	2010	BioDetection, LLC	\$89,526
10-30	2010	BlueInGreen, LLC	\$79,677
10-30	2010	First Orion Corp.	\$118,323
10-30	2010	Minotaur Technologies, LLC	\$18,269
10-30	2010	NanoMech, LLC	\$90,929.05
10-30	2010	NN-Labs, LLC	\$239,912
10-30	2010	SFC Fluidics	\$134,610
10-30	2010	Vegrandis, LLC	\$43,402
Total: 9			\$130,999

Resolution Number	Fiscal Year	Company	Total Credit
10-35	2010	Axept, LLC	\$61,826
10-35	2010	BioBased Technologies, LLC	\$280,802
10-35	2010	Ecosystems, LLC	\$65,583
10-35	2010	InvoTek, Inc.	\$83,157
10-35	2010	LITMUS, LLC	\$86,751
10-35	2010	Lynguent, Inc.	\$42,901
Total: 6			\$621,022

Total R&D Tax Credits: 17			\$1,573,545
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Technology Transfer Assistance Grant

Number	Fiscal Year	Reference	Client Name	Total Award
1	2010	10-TTAG-01	Greenville Tube Company	\$3,750
2	2010	10-TTAG-03	American Bronze Craft	\$3,750
3	2010	10-TTAG-04	Sage V Foods	\$3,750
4	2010	10-TTAG-05	Robert Bosch Tool Corp.	\$3,750
5	2010	10-TTAG-06	Detco Industries, Inc.	\$3,750
6	2010	10-TTAG-07	Detco Industries, Inc.	\$3,750
7	2010	10-TTAG-08	Grace Composites	\$3,750
8	2010	10-TTAG-09	Grace Composites	\$3,750
9	2010	10-TTAG-11	Conway Precision Products, Inc.	\$3,750
10	2010	10-TTAG-12	Pel-Freez Arkansas, LLC	\$3,750
11	2010	10-TTAG-17	B & B Elevator, Inc.	\$3,750
12	2010	10-TTAG-19	Jotto Desk	\$3,750
13	2010	10-TTAG-21	BlueinGreen, LLC	\$3,750
14	2010	10-TTAG-22	GeneFab, LLC	\$3,750
15	2010	10-TTAG-23	NanoMech Corporation	\$3,750
16	2010	10-TTAG-24	PC Turnkey, Inc.	\$3,750
17	2010	10-TTAG-25	EquityNet, LLC	\$3,750
18	2010	10-TTAG-26	Dixie Consumer Products	\$3,750
19	2010	10-TTAG-27	BioDetection Instruments	\$3,750
20	2010	10-TTAG-32	AGL Construction Lasers	\$3,750
21	2010	10-TTAG-33	AGL Construction Lasers	\$3,650
22	2010	10-TTAG-34	CMC Joist	\$3,750
23	2010	10-TTAG-42	Conestoga Wood Specialties	\$3,750
24	2010	10-TTAG-43	Orlumet, LLC	\$3,750
25	2010	10-TTAG-44	BioDetection Instruments	\$3,750
26	2010	10-TTAG-49	BlueinGreen, LLC	\$3,750
27	2010	10-TTAG-50	D & N Machining Company	\$3,750
28	2010	10-TTAG-51	Gerber Products	\$3,750
29	2010	10-TTAG-52	Arkansas Power Electronics International, Inc	\$3,750
30	2010	10-TTAG-53	Arkansas Power Electronics International, Inc	\$3,750
31	2010	10-TTAG-55	Brunner & Lay, Inc.	\$3,750
32	2010	10-TTAG-58	Silicon Solar Solutions	\$3,650
33	2010	10-TTAG-59	H & T Truss Mill, Inc.	\$3,750
34	2010	10-TTAG-60	H & T Truss Mill, Inc.	\$3,750
35	2010	10-TTAG-61	Conestoga Wood Specialties	\$3,750
36	2010	10-TTAG-62	Vegrandis, LLC	\$3,750
37	2010	10-TTAG-65	PC Turnkey, Inc.	\$3,750
38	2010	10-TTAG-66	B & B Elevator, Inc.	\$3,750
39	2010	10-TTAG-68	Jotto Desk	\$3,750
40	2010	10-TTAG-69	CMC Joist	\$3,750
41	2010	10-TTAG-70	Brunner & Lay, Inc.	\$3,750
42	2010	10-TTAG-71	Travis Lumber Co.	\$3,750
43	2010	10-TTAG-72	D & N Machining Company	\$3,650
44	2010	10-TTAG-76	Galley Support Innovations, Inc.	\$3,750
45	2010	10-TTAG-77	River City Coatings, Inc.	\$3,750
46	2010	10-TTAG-78	Post Foods	\$3,750
47	2010	10-TTAG-81	Sterling Machine Co. Inc.	\$3,750
48	2010	10-TTAG-82	AmFuel	\$3,750
49	2010	10-TTAG-83	Bishop Aviation	\$3,650

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Technology Transfer Assistance Grant (cont'd)

Number	Fiscal Year	Reference	Client Name	Total Award
50	2010	10-TTAG-84	EZRA Innovations, LLC	\$3,750
51	2010	10-TTAG-85	Stage 1 Diagnostics	\$3,750
52	2010	10-TTAG-88	Nice-Pak Products, Inc.	\$3,750
53	2010	10-TTAG-89	Silicon Solar Solutions	\$3,750
54	2010	10-TTAG-90	Molex Little Rock Connector	\$3,750
55	2010	10-TTAG-93	Class A Tooling, Inc.	\$3,750
56	2010	10-TTAG-94	Magna IV Color Imaging, Inc.	\$3,750
57	2010	10-TTAG-87	Hiram Walker	\$3,750
58	2010	10-TTAG-91	American Breeding & Spice	\$3,750
59	2010	10-TTAG-92	Pepper Source	\$3,750
60	2010	10-TTAG-95	River City Coatings, Inc.	\$3,650
61	2010	10-TTAG-98	American Breeding & Spice	\$3,750
62	2010	10-TTAG-100	InvoTek, Inc.	\$3,750
63	2010	10-TTAG-102	Medallion Foods, Inc.	\$3,750
64	2010	10-TTAG-103	Galley Support Innovation, Inc.	\$3,750
65	2010	10-TTAG-104	Nutraceutical-Innovations	\$3,750
66	2010	10-TTAG-105	InvoTek, Inc.	\$3,750
67	2010	10-TTAG-106	Pepper Source	\$3,750
68	2010	10-TTAG-107	Mesolight LLC	\$3,750
59	2010	10-TTAG-108	Bishop Aviation, Inc.	\$3,750
70	2010	10-TTAG-109	BioStrategies LC	\$3,750
Total: 70				\$255,625