



Minnesota Science & Technology Authority

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# SCIENCE AND TECHNOLOGY ANNUAL *REPORT*

Report to the Legislature  
as required by 2010 Session Laws, Ch. 347, Art. 1, Sec. 14, subd. 8

January 31, 2011  
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Science and Technology Authority



## **Minnesota Science and Technology Authority**

The Minnesota Science and Technology (S&T) Authority was created in July 2010 by legislature (116W.01) and tasked with developing and implementing a comprehensive science and technology economic development strategy (Strategic Plan) for Minnesota. The duties and responsibilities of the former Office of Science and Technology (OST) were transferred into the S&T Authority and the Director of the OST became the Executive Director of the S&T Authority.

The Commissioner of the Department and Economic Development (DEED) serves as the CEO and Chair of the S&T Authority. As members of the Authority, the Commissioners of Revenue, Management and Budget, Commerce and Agriculture have responsibility for reviewing and approving financing of eligible projects, projects that have been authorized by law, or programs specifically authorized by resolution of the authority.

An 18-member Advisory Commission was appointed by Governor Pawlenty to serve as the lead in preparing the strategic plan. Many of the previous members from the Advisory Committee who prepared the Recommendations for a Minnesota Science and Technology Initiative Report submitted to Legislature January 15, 2010 were asked to serve on the newly appointed Advisory Commission. Current Advisory Commission members are:

- **Academia/Research**
  - Eric Wieben, Mayo Clinic
  - Tim Mulcahy, University of Minnesota
  - Art Erdman, University of Minnesota
  - Gail O’Kane, Minnesota State Colleges & Universities
  - Deb Newberry, Dakota County Technical College
- **Industry**
  - Rick King, Thomson Reuters
  - Randy Giroux, Cargill Incorporated
  - Pat Ryan, Seagate
  - Mark Willers, MinWind Energy
  - Dan Mallin, Magnet 360
  - Joe Shaw, Syntiron
- **Trade Organizations**
  - Don Gerhardt, LifeScience Alley (retired)
  - Dale Wahlstrom, BioBusiness Alliance & LifeScience Alley
  - Todd Hauschildt, Minnesota High Tech Association
  - Chip Laingen, Minnesota Defense Alliance
- **Venture Capital**
  - Joy Lindsay, StarTec Investments LLC
- **Angel Investor**
  - John Alexander, Twin City Angel Funds
- **Labor**
  - Jim Nimlos, International Brotherhood of Electrical Workers.

Three meetings of the Authority (5 Commissioners) were held in 2010: June 18th, September 10th and December 10th. The first meeting was to brief them on their duties and responsibilities, the January 15, 2010 Report, creation of the S&T Authority, members of the Advisory Commission and the legislative request for a strategic plan to be submitted January 15, 2011. The second meeting updated the Commissioners on the progress of the Advisory Commission and the Strategic Plan. The third meeting updated them on the final draft of the Strategic Plan and thanked them for their service, guidance and recommendations.

The Advisory Commission met each month for six months in 2010 starting July 30<sup>th</sup>. Four sub-committees were created with a chair to lead the efforts of each committee: State Assessment/Programmatic Elements/Metrics; Industry Segments; Communications; and, Funding. The Committees worked for the first three of the six months on developing their specific information modules to be included in the organization and structure of the strategic plan. The last three months were spent on drafting and editing the strategic plan. These 18 members have donated thousands of hours in creating the strategic plan, legislative strategy and communications out reach for the S&T Authority.

A consultant was hired who had national experience in creating S&T plans. The consultant worked with the Advisory Commission and Executive Director to organize and draft the plan.

The S&T Strategic Plan will be submitted to legislative leaders on January 14, 2011.

### **Technology Matching Grants**

Technology Matching Grants assist in partially funding research and development needed to accelerate products toward clinical trials, testing or commercialization for small high-tech businesses. Four companies received Technology Matching Grants last year. Each company had to match the state investment of \$50,000 with a minimum of \$75,000 cash.

### **Wilson Wolf Manufacturing**

Wilson Wolf Manufacturing (WW) developed a device to culture cells used in cancer treatment. The National Cancer Institute recently began transitioning their cell therapy program into WW's technology because of its excellent results and effective cost reduction. As a result, other groups, such as Memorial Sloan Kettering have begun using WW's technology. During the development of this technology, WW received SBIR Phase I and II funding along with a Technology Matching Grant from the State. Because the performance data obtained is so promising for the future use of this technology, WW hired one permanent production person at \$39K in pay and with full benefits (401K + 5% match, vacation, holidays, personal days, health and dental).



## **ARC Nano**

ARCNano's Data Eradication System(DESY) technology development was partially funded by a Technology Matching Grant (matched by ARCNano). IBM Global Services agreed to be the DESY beta site tester and is very excited about deployment of the process into its large data centers. These centers are regulated by the most strict legal controls and migration of customer data. The DESY process will enable new best practices for the reuse and resale of existing tapes, making the large data center much more efficient economically and environmentally.

## **Xollai LLC**

The Technology Matching Grant was leveraged with funding from the St. Thomas University Norris Institute \$75,000. This extra infusion of \$125,000 has allowed Xollai to accomplish further development of the Optical Autonomy Recovery System (XOARS) for unmanned air systems (UAS) to fulfill a specific need identified by the US ARMY. The grant helped to not only fund the progress of Xollai's technology but it has created a credible foundation from which to leverage future funding. It has been integral to the success and ability to gain favorable terms in. An additional five (5) employees were hired (4 engineers and one business admin) to handle the new workflow with the intention to hire on 2 more employees in Q1 of 2011. Xollai also signed a \$340,000 contract with Goodrich Sensors for the pursuit of systems integration for Small UAS.

## **Orasi Medical**

Orasi Medical is using novel technology that provides diagnostic information for identifying and tracking neurological disorders to diagnose and measure treatment response in tinnitus patients. Novartis AG is partnering with Orasi Medical on this research study and is sharing in the match ratio of 2:1 vs. the required 1.5:1. This project is still in process and will be complete May 21, 2011.

## **Phase II Commercialization Planning Program Assistance Program**

Twin Star Medical applied for and received assistance from the 2009 Phase II Commercialization Planning Program. They received notification of award in October 2010 and received a \$3M National Institute of Health grant over three years to continue research using an innovative catheter to treat a life threatening condition affecting a significant population of traumatic brain injury and stroke patients. The application for this award was supported by a \$10,000 grant from the Phase II Commercialization Plan program from the Office of Science & Technology.

Due to lack of funds the Phase II Commercialization Planning Program was not funded this year.

## **SBIR/STTR**

### **Activities & Progress**

A Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Program Director was hired to allow the Executive Director to focus on the development of the strategic plan and policy issues.

### **August through December 2010**

Emphasis during this time was on individual and group outreach, training, support and teaming activities.

### **One-on-one Support**

The SBIR/STTR Program Director met with 52 individual companies face to face to advise/assist them with evaluating, researching and submitting SBIR and STTR proposals. Full formative reviews were provided for 5 Phase I proposals and 3 Phase II proposals submitted to NIH, DoD, Department of Energy and Department of Education. Funding results are pending.

### **Group Outreach & Presentations**

The SBIR/STTR office collaborated with a variety of small business and high technology organizations to create awareness and provide training events for companies considering submitting federal proposals. These included:

- Two University of MN Venture Center and Office of Technology Commercialization Start-up Company workshops (participant total ~90)
- SBIR/STTR Basics presentation to Cleantech Open and Minnesota Cup participants (~60 participants)
- MN Renewable Energy Roundtable SBIR intro in St. Cloud at quarterly meeting (~85 participants)
- University Enterprise Laboratory luncheon presentation by Executive Director of the Science & Technology Authority and the SBIR/STTR Program Director (~30 participants)
- SBIR/STTR introduction at Women in Defense meeting (~10 participants)
- SBIR/STTR introduction at Women Venture government contracting workshop (~15 participants)

In addition, the program established a regular opt-in electronic SBIR/STTR newsletter and notification service. The initial list of approximately 200 has increased to a current list of 415 recipients in Minnesota.

**Small Company/Large Company Teaming**

Expanded matchmaking activities between SBIR firms and prime/large contractors for SBIR projects and contracts. Large company involvement expanded to include Lockheed Martin, Boeing, DRS Defense Systems, Pratt and Whitney and Honeywell.

**Recognition/Awards**

Prepared and submitted nominations for three Minnesota SBIR companies for the Small Business Administration-sponsored SBIR Hall of Fame and Tibbetts Awards (winners to be announced in February 2011).

**Science & Technology Authority Budget (Including SBIR/STTR)**

See attached budget.

Minnesota Science & Technology Authority

BFY: 2011

Manager's Financial Report

as of: 12/30/10

sort: Orgn / Fund / Appr / Obj Class

Orgn	Fund	Appr	Allotment Name	Obj	Obj Class	Current Budget	Expended	Obligations	Balance	Bal %
1000	100	001	MN SCIENCE & TECH AUTHORIT	1A0	FULL TIME	177,100.00	83,365.33	93,734.67		
				1C0	OVERTIME PAY	1,000.00		1,000.00		
				2A0	SPACE RENTAL	6,000.00			6,000.00	100.00%
				2D0	PT OUTSIDE V	65,000.00	42,940.49		22,059.51	33.94%
				2F0	COMMUNICATIO	1,000.00	304.74	281.36	413.90	41.39%
				2G0	TRAVEL I/S	1,000.00	1,149.07		-149.07	-14.91%
				2H0	TRAVEL O/S	1,000.00	3,541.23		-2,541.23	-254.12%
				2J0	SUPPLIES	1,000.00	1,325.69		-325.69	-32.57%
				2L0	EMPLOY DEVEL	1,000.00	2,879.00		-1,879.00	-187.90%
				2M0	OTHER OPERAT	1,233.27	2,872.01		-1,638.74	-132.88%
				2N0	AGY INDIRECT	7,000.00			7,000.00	100.00%
				2S0	AGENCY PT SE	21,000.00		21,000.00		
				5G0	NON-GOVT AID	100,000.00	246.37		99,753.63	99.75%
1000	100	001	MN SCIENCE & TECH AUTHORITY	Allotment Totals:		383,333.27	138,623.93	116,016.03	128,693.31	33.57%
sub-total for Orgn 1000 MN SCIENCE AND TECH AUTHORITY				Orgn Totals:		383,333.27	138,623.93	116,016.03	128,693.31	33.57%
Grand Totals						383,333.27	138,623.93	116,016.03	128,693.31	33.6%