

TechReach



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See page 2 for the story on how GLITeC and NASA strengthened ADMA, Inc.'s operations through new technology.

This issue, *TechReach* begins featuring a series of articles on Ohio's Thomas Edison Program. See page three for our interview with Adrienne Heard from the Wright Technology Network.

GLITeC Connects Companies with New Source for NASA Software

The world is about to get a little bit smaller. Again.

GLITeC commercializes NASA Glenn technology on a daily basis. NASA's software represents a unique commercialization challenge because it is so specialized. NASA develops software to solve complex engineering problems for specific applications.

Enter Open Channel Software. Open Channel publishes, distributes, and commercializes software from academic and research institutions through the Internet. After GLITeC learned about Open Channel through its Illinois affiliate, GLITeC staff seized the opportunity to introduce Doug Curry, Vice President of Open Channel, to NASA researcher David York. GLITeC knew that York's software expertise could be invaluable to the start-up.



David York, from NASA Glenn, and Doug Curry, from Open Channel Software, partners in a GLITeC-facilitated commercialization agreement.

Open Channel Software is made up of two separate, complementary entities. Open Channel Foundation focuses on the initial acquisition of software which it publishes on its Web site.

When software demonstrates strong commercial potential, Open Channel Software, Inc., takes over. Open Channel Software, Inc. concentrates on commercializing selected applications. It provides services such as support and maintenance, consulting and implementation, documentation, and contract programming.

Doug Curry, Vice President of Business Development, compares Open Channel's services to the Dewey Decimal System. "Imagine going into
(Continued on page 2)

Hot Technology Opportunity

NASA Glenn researchers have developed a hollow cathode which will offer 100 times the lifetime of standard filament cathodes. When used in plasma enhanced chemical vapor deposition (PECVD) equipment, hollow cathodes will double the deposition rate of that equipment. This can mean big gains for the semiconductor industry, the primary market for PECVD equipment.

GLITeC is seeking licensing partners for NASA's hollow cathode assembly technology. NASA's hollow cathodes, which are efficient and durable electron emitters, were developed for

space applications. Industry experts have confirmed that NASA is the technology leader for this design. Eighty to ninety percent of the hollow cathodes put into space have been designed and built by NASA.

This technology offers significant benefits to many industrial applications. GLITeC has spoken with PECVD equipment suppliers, who are interested in incorporating the technology into their equipment designs.

For more information about opportunities to license this technology, contact Pete O'Neill at oneillp@battelle.org or at 216-898-6447.

Mission

GLITeC's core mission is to turn technology developed by NASA into valuable products, processes, and solutions.



Vladimir Moxson of ADMA Products, Inc. GLITeC supported ADMA in commercializing NASA technology.

ADMA Upgrades Operations Through Critical License

Outdated technology can cripple your company's functionality. ADMA Products, Inc. knows this. So the machine parts manufacturer sought GLITeC assistance in licensing NASA Glenn technology.

The technology is PS300, a self-lubricating bearing material containing chromium oxide. PS300 can be used wherever there is a need for lower weight, less maintenance, or higher operating speeds or temperatures.

GLITeC supported ADMA in developing and strengthening its plan for promotion and sales of new products. Because of this work, ADMA secured a license from NASA for the composite material.

This license led to big results. Within two months of ADMA's receiving the license from NASA, ADMA began to ship new products made with the PS300 composite.

The work with NASA continued:

ADMA and NASA developers worked closely to optimize the manufacturing processes and maximize yield. With input from NASA, ADMA increased yields of the key starting material from five percent to 45 percent. These improvements reduced delivery times and increased profits. Which keeps ADMA's technology current and the company competitive.

Software Connection

(Continued from page 1)

the library, and having no way to locate the book you are looking for. The Dewey Decimal System provides a necessary method of sorting through thousands of books. OCS hopes to do the same for technologically advanced software, building a single location and an effective method to research available software."

GLITeC gave this small company an opportunity to demonstrate its model to NASA. Since the original introductions, Open Channel has met

Advisory Corner

GLITeC's advisory board provides the center with invaluable real-world business experience and expertise. This summer, GLITeC welcomes its one of its newest board members.



Greg Malkin, one of GLITeC's newest advisory board members.

Greg Malkin knows business; he has been running companies since college. In 1982, after graduating from MIT in 1976 with a degree in chemical engineering, he founded Technical Software, Inc., Ohio's leading computer-aided engineering systems integrator. In January 2000, he sold TSI to Toronto-based Rand Worldwide.

Together, they launched Imaginit Technologies, a new division of Rand headquartered in Cleveland.

Greg holds a solid background in business and entrepreneurship. He has created a national organization of companies similar to TSI, has been instrumental in acquiring nine companies from three countries for Imaginit Technologies in the last year, and has worked with a broad range of manufacturing, consulting, engineering, architectural, and university clients. He has actively "been involved in business for a lot of years. My experience

starting and running businesses will be of most use to GLITeC."

Small businesses and technology start-ups, for Greg, are foundations of solid economies. He says, "More jobs are created by new companies and small companies than by anything else." He believes GLITeC needs to focus on

entrepreneurship and the creation of new companies in order to accelerate the economic growth of Cleveland and the Great Lakes region.

GLITeC welcomes its newest advisory board member

He champions GLITeC's mission: "I strongly believe in what GLITeC is trying to do. We need to generate more technology companies in Cleveland and need to create more of a technology-entrepreneur culture. I think GLITeC is right there at ground zero, and that NASA is a perfect place to be a source for that development. I think it's real important work."

with technical and commercial experts at NASA Glenn, presented to NASA's national marketing team, and signed an agreement to publish some of NASA's software. According to Curry, "GLITeC was a huge help, understanding the challenges and values of what we do, and knowing who we needed to talk to."

NASA and Open Channel have signed a Space Act Agreement. NASA Glenn will benefit from a model that increases its software's value by making it widely available to industry. Open Channel and all its industrial clients have gained access to a prestigious source of software.

For more information on OCS, visit their Web site at <<http://www.openchannelsoftware.com/>>.

AUGUST'S FEATURED AFFILIATE

The Minnesota High-Tech Association

Regional demands require custom-tailored assistance. GLITeC's affiliate network helps the center facilitate constructive relationships with enterprises throughout the Great Lakes region.

The Minnesota High Tech Association (MHTA) is the largest technology trade association in the state of Minnesota, representing companies of all sizes across a variety of industries. The MHTA is the leading resource for high-tech companies in public policy advocacy, economic development, community outreach, and education and training. MHTA maintains a business resource network to select those service providers that best understand technology companies and their needs.

MHTA's Wonders of Technology exhibit will be open to the public at the Minnesota State Fair from August 23 to September 3. The interactive exhibit will showcase Minnesota's cutting edge technologies in education, business, health, and the home.

For more information on the MHTA, visit their Web site at <<http://www.mhta.org/>>. For information on the Wonders of Technology exhibit, visit <<http://www.wondersoftechnology.org/>>.

Q&A



Adrienne Heard

Project Manager,
Wright Technology Network (WTN)

Tell us about yourself and your position with WTN.

I am the WTN Project Manager for the NASA Glenn Garrett Morgan Commercialization Initiative (GMCI), which works exclusively with small, women-owned, and minority-owned businesses. I organize a network of businesses in southwest Ohio to enhance their access to NASA technology for commercial applications.

How does WTN collaborate with Ohio's Thomas Edison Program?

WTN provides technology transfer services to the Air Force, the state of Ohio, and other agencies for delivery to American companies. WTN collaborates with Edison Technology Centers and Incubators to boost WTN's ability to effectively respond to Air Force Research Laboratory (AFRL) and industry needs. For example, WTN leads in supporting companies from The Entrepreneurs Center, Ohio's newest Edison technology incubator.

How do you find new companies that WTN may assist?

Networking! The only way to find new companies is to go where the companies are. Small businesses don't have the resources to spend on huge advertising campaigns, so it is important that WTN participate in small, minority-owned, and women-owned business events, as well as technology and trade events.

What technology transfer tools does WTN offer companies?

WTN provides qualified companies with comprehensive business and technology assessments, identification of promising NASA and Air Force opportunities, strategic planning, linkage to resources, partnership and project facilitation, and market development assistance.

Could you describe some of your biggest WTN success stories?

BTAS, an information technology development company, and BITEC, a precision production machining company, have each been awarded substantial contracts with NASA. Companies have increased sales through improved operations. CDO, which specializes in automatic identification technologies including

bar coding and smart cards, jumped from \$2.8 million to \$6.6 million in sales. Research, design, engineering, and manufacturing simulation firm DaySys increased its research capacity by establishing a research agreement with AFRL. Faraday, which applies electrochemical principles to the electroplating, casting, machining, environmental systems, and corrosion markets received a \$700,000 development contract with an electronics manufacturing systems company. Fiberglass and advanced composite sandwich core developers Webcore acquired a \$750,000 Ohio Technology Action Fund award.

How do small companies strengthen the Great Lakes economy?

Statistics show that the largest growth in employment will be in companies with fewer than 500 employees. The number of minority- and women-owned businesses is also increasing. These companies bring new attitudes and approaches to operations and a commitment to their region.

How can and do these four key organizations (AFRL, GRC, WTN, and GLITeC) best collaborate?

AFRL and GRC have numerous technologies in the aerospace field that complement each other, including aerospace vehicles, materials, propulsion, and sensors.

We have been collaborating through GMCI. Great Lakes GMCI businesses gain access to WTN's network and knowledge of AFRL and Wright Patterson Air Force Base (WPAFB). I would like to increase the number of companies in southwest Ohio that have access to GMCI, and offer WTN expertise to GMCI participants located in other Great Lakes states. WTN will help GLITeC with GMCI in any way possible.

More information about Ohio's Thomas Edison Program is available on the Ohio Department of Development Web site at <<http://www.odod.state.oh.us/tech/>>. For Wright Technology Network news and events, check their Web site at <<http://www.wtn.org/>>.

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GLITeC Connection, NASA Facilities Keeping Air and Road Travel Safe

Manhole covers can handle your car, but can they take a bullet? What about airplane fuselage panels? A private company will be taking advantage of NASA's ballistics facilities to test materials that are used in both.

The Dayton-based company Webcore develops stitched foam composite materials that are applied in a broad range of practical markets. The materials have been employed in airplane fuselage panels, truck cabs, and manhole covers. Now, thanks to GLITeC's knowledge of NASA Glenn's resources and personnel,

Webcore will use NASA resources to test their stitched foam panels.

GLITeC's prior experience with NASA personnel in the consortium for the Design and Analysis of Composite Materials meant that it could pinpoint the expertise that Webcore needed. GLITeC facilitated a meeting and tour of Glenn's ballistic impact testing facilities, and the two parties agreed to work together.

GLITeC defined the scope of work between the two groups in a simplified technology transfer agreement.

For more information on NASA Glenn's ballistics impact testing facilities, visit the Web site at <<http://ballistics.lerc.nasa.gov/>>.

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