



# Enterprise Innovation Institute

## Annual Report 2010

**Georgia Tech** Enterprise Innovation Institute





# Enterprise Innovation Institute (EI<sup>2</sup>)

## 2010 Report Card

Georgia Tech's Enterprise Innovation Institute (EI<sup>2</sup>) helps enterprises of all kinds improve their competitiveness through the application of science, technology, and innovation.

During fiscal year 2010, the Enterprise Innovation Institute:

Helped Georgia manufacturing companies reduce operating costs by \$35 million, increase sales by \$243 million, and create or save 1,350 jobs. EI<sup>2</sup> served 710 manufacturers during the year.

Evaluated 125 Georgia Tech research innovations and formed 16 new companies based on this intellectual property. Startups based on Georgia Tech innovations attracted \$60.5 million in investment.

Worked with 235 companies interested in collaborations with Georgia Tech, including 17 projects involving state economic development agencies. Projects resulting from those interactions generated 3,693 new jobs and produced \$547 million in capital investment.

Helped Georgia companies win \$560 million in government contracts, creating an estimated 11,505 jobs.

Assisted 71 minority entrepreneurs, who received \$31.5 million worth of new contracts, sales increases, and financing.

Served more than 250 technology startup companies that together generated capital activity (venture capital investment and mergers/acquisitions) of more than \$157 million. Companies affiliated with the ATDC program reported revenues totaling more than \$1 billion and nearly 3,500 jobs.

Helped Georgia companies prepare 58 applications for Small Business Innovation Research (SBIR) grants. Companies assisted won nearly \$7 million in awards.



The Enterprise Innovation Institute is headquartered at Technology Square on Georgia Tech's campus.

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## A Message from the Vice President

Welcome to the 2010 annual report of the Georgia Tech Enterprise Innovation Institute (EI<sup>2</sup>). EI<sup>2</sup> is Georgia Tech's primary business outreach organization, and provides a comprehensive program of assistance to business, industry, entrepreneurs, and economic developers. Our goal is to help enterprises of all kinds apply science, technology, and innovation to improve their bottom lines.

Like other Georgia state organizations, we have had to adjust to continued reductions in our operating budget caused by the national recession. However, I'm pleased to report that we are finding new markets where we can apply the considerable skills and experience of our talented staff members. Using the same innovation techniques that we recommend to our clients, we will continue to seek new opportunities for serving the state of Georgia.

This annual report includes a new section describing our services to persons with print disabilities, and highlights new directions for our technology transfer and innovation services unit. Our next annual report will describe the successes of new services we've recently launched in energy and sustainability, technology innovation practices, and educational programs for government and business contracting officers. I'm also pleased to report that our services to health care providers have expanded and now include assistance to primary-care providers adopting electronic health records systems.

Perhaps the most significant news of 2010 affected our services to entrepreneurs. Last year, we expanded our Advanced Technology Development Center (ATDC) by opening it up to all technology startup companies in Georgia. That change dramatically expanded our ability to assist companies we had previously not been able to serve.

As you might imagine, this change has affected ATDC staff members, who have had to adjust the way they interact with companies, switching from traditional one-on-one assistance to programming designed to help many companies simultaneously. We have also begun offering ATDC programming beyond our midtown Atlanta headquarters, and recently completed an agreement with the University of Georgia to share its Lawrenceville, Ga. facilities.

The past two years have been difficult for all of us, and I thank our dedicated staff, our partner organizations, and our clients for working together to continue moving Georgia's economy forward. As we adapt to the new economic realities and pursue new opportunities, I assure you that we will not lose sight of our mission – which continues to be helping enterprises take advantage of science, technology, and innovation to grow and prosper.



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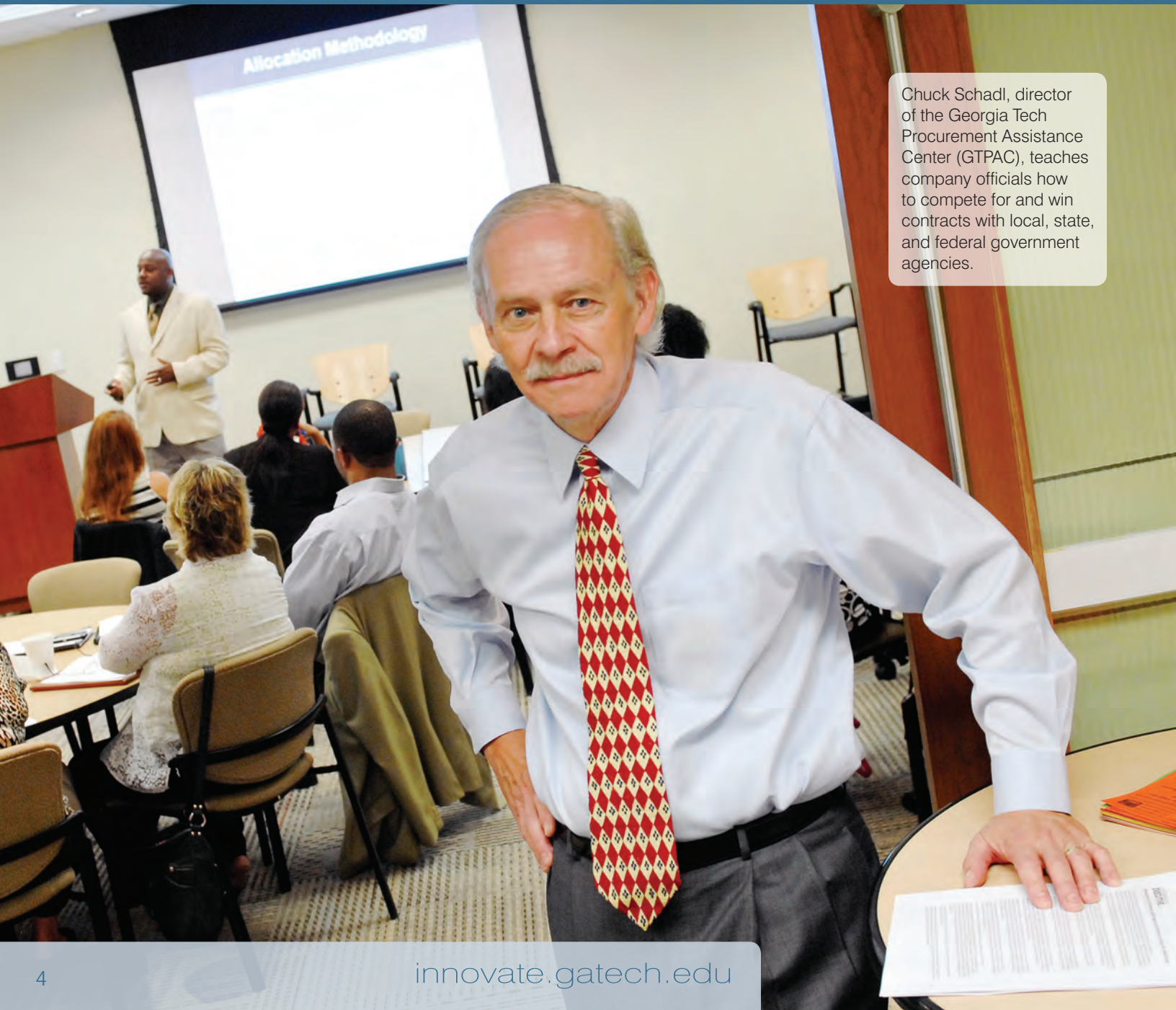


# About the Enterprise Innovation Institute (EI<sup>2</sup>)



Georgia Tech's Enterprise Innovation Institute (EI<sup>2</sup>) helps enterprises of all types and sizes – companies, health care providers, entrepreneurs, economic developers and communities – improve their competitiveness through the application of science, technology, and innovation.

The Enterprise Innovation Institute is the nation's largest and most comprehensive university-based program of business and industry assistance, technology commercialization, and economic development.



Chuck Schadl, director of the Georgia Tech Procurement Assistance Center (GTPAC), teaches company officials how to compete for and win contracts with local, state, and federal government agencies.

## EP<sup>2</sup> Programs Include:

The **Advanced Technology Development Center (ATDC)** is a startup accelerator that helps Georgia technology entrepreneurs launch and build successful companies. ATDC also assists Georgia Tech research staff through the VentureLab process, which helps build companies from laboratory discoveries.

The **Alternative Media Access Center (AMAC)** provides products and services designed to ensure that all students with print-related disabilities have equal and timely access to print materials at an affordable cost.

**Community Innovation Services (CIS)** provides strategic support to community leaders interested in sustainable development that seeks a balance of economic, environmental, and social equity factors.

The **Georgia Entrepreneur and Small Business Outreach Program**, a collaboration with the University of Georgia, supports the needs of the small business and entrepreneur community in rural parts of Georgia. It is supported by the OneGeorgia Authority.

The **Georgia Manufacturing Extension Partnership (GaMEP)** improves the competitiveness of Georgia manufacturers through a comprehensive set of services that includes assistance with lean enterprise solutions, strategic planning, quality and international standards, energy and environmental management, growth services, and access to unique resources at Georgia Tech.

The **MBDA Business Center (MBC)** in Atlanta, Ga., provides business and technical assistance that helps emerging and existing minority businesses experience significant growth and sustainability, and have long-term impact through the creation of jobs and revenue.



Donna Ennis, director of the MBDA Business Center (MBC) in Atlanta, Ga., confers with Lonnie Johnson, founder of Johnson Research and Development Co., Inc., in Atlanta.

*EP<sup>2</sup> serves Georgia through a network of staff members located throughout the state. EP<sup>2</sup> services are supported by the state of Georgia and by the federal government through such programs as the National Institute of Standards and Technology Manufacturing Extension Partnership and the U.S. Department of Commerce's Economic Development Administration. EP<sup>2</sup> is headquartered in Georgia Tech's Technology Square.*

The **Georgia Tech Lean Consortium** provides a forum and process to advance the knowledge and effective use of lean principles through shared training and peer-to-peer relationships.

The **Georgia Tech Procurement Assistance Center (GTPAC)** helps Georgia companies identify, compete for, and win government contracts through teaching, mentoring, and coaching – and by providing companies access to electronic tools for researching and identifying contracting opportunities.

**Health@ei2** assists in the implementation of electronic health records systems, supports planning for the operation of health information exchanges, and helps hospitals boost efficiency by adopting process improvement strategies.

The **Program in Science, Technology and Innovation Policy (STIP)**, operated by EP<sup>2</sup> and the Georgia Tech School of Public Policy, aims to establish an internationally recognized initiative focused on research-based, economically driven science, technology, and innovation policies.

The **Southeastern Trade Adjustment Assistance Center (SETAAC)**, supported by the U.S. Economic Development Administration, helps manufacturers implement turnaround strategies to better compete with imports.

The **Strategic Partners Office** links companies to leading-edge resources at the Georgia Institute of Technology, applying Georgia Tech know-how, specialized facilities, and student talents to such corporate goals as new product development, improved competitiveness, and transformation of industrial processes.

**Technology Innovation Practices** provides a comprehensive set of services and tools to help economic developers design and implement strategies for using business incubation activities to support local economic growth and sustainability.

The **Contracting Education Academy at Georgia Tech** offers world-class training and solutions – in the field of acquisition and public-sector contracting – for both the government and business communities.



# Services in Accessible Media



EI<sup>2</sup>'s alternative media access services help remove social and academic barriers for individuals with print-related disabilities, including persons who are blind, visually impaired, or who have a physical or learning disability. Through its **Alternative Media Access Center (AMAC)**, which is supported by Georgia's University System Board of Regents, EI<sup>2</sup> provides products and services designed to ensure that all students with print-related disabilities have equal and timely access to print materials at an affordable cost. Examples of these services include conversion of textbooks into accessible formats, training in production of Braille materials, and development of software to manage information about student access needs. As a membership organization headquartered in Atlanta, AMAC serves clients across the nation.



AMAC staff member Diana Kerckhof shows an example of tactile graphics math Braille that provides students with print-related disabilities access to textbook charts and graphs. Staff members Guy Toles and Norah Sinclair look on.



## Reducing the Cost of Textbooks for Students

Electronic textbooks needed by post-secondary students with disabilities can be expensive. In collaboration with two partner organizations, EI<sup>2</sup>'s Alternative Media Access Center has won a \$1.1 million grant from the **U.S. Department of Education** to implement a rental program that will help provide low-cost access to post-secondary electronic textbooks for all students, including those with print-related disabilities. The **STudent E-rent Pilot Project (STEPP)** will offer electronic textbooks that have been specially modified for accessibility in accordance with the Americans with Disabilities Act and the Rehabilitation Act of 1973. Partners in this project include **AccessText Network** and **CourseSmart**, the world's largest provider of electronic textbooks.

## Providing Income Opportunities with Technology

In 2010, the Alternative Media Access Center (AMAC) received a \$740,000 grant to fund development of an innovative training initiative designed to help ex-offenders develop the skills necessary to produce Braille materials needed by persons with disabilities. The initiative has two goals: helping meet the critical needs of persons with disabilities, and providing ex-offenders with marketable skills that could reduce the rate of recidivism. Funded by the Second Chance Act of the **U.S. Department of Justice/Bureau of Justice Assistance**, the Providing Real Opportunities for Income Through Technology (PROFIT) program is designed to be used by any correctional facility interested in implementing a comprehensive, competency-based Braille training curriculum. Partners include the **Texas Department of Criminal Justice**, **National Braille Press**, and **American Printing House**.



An AMAC student worker reads a textbook using a refreshable Braille device.



AMAC staff members Lauren Balfour and Zak Beard demonstrate iPad accessibility features for reading electronic textbooks.

## Managing Data on Student Access Needs

Through its Alternative Media Access Center, EI<sup>2</sup> is providing a secure, web-based database application designed to help providers of post-secondary disability services manage information on students, disabilities, and accommodations – including case notes. The Student Accommodation Manager (SAM) was developed and hosted using Intuit's QuickBase system, and follows a "software as service" model in which users are freed from the need to install software or manage servers. Predefined reports and a powerful report writer allow users to manage data while backups and system needs are handled by the service. SAM can also serve as a forms repository and automatically generate accommodation notification letters.

## Making Publisher Electronic Files Available

The Alternative Media Access Center also manages the **AccessText Network (ATN)**, which connects publishers of printed materials with post-secondary disability service programs. Founded and supported by the **Association of American Publishers** and higher-education publishers, ATN serves as the national center for post-secondary distribution of approved alternative textbook files, training, and technical support. Among its benefits is national tracking of file usage to help predict future demand, potentially reducing response time. Since the network's launch in 2009, nearly a quarter of the nation's higher-education institutions have signed up to participate, and the network has fielded more than 45,000 requests for files.

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# Innovation Services



EL<sup>2</sup> Innovation Services applies innovative ideas, technologies, and policies that foster value creation for governments, communities, foundations, entrepreneurs, and small businesses. Programs include supporting co-development and licensing of NASA technology, assisting communities with strategic planning and economic growth, fostering business incubation best practices, supporting relevant research, and helping advance greater utilization of information technology by local governments and companies.



The Nanotechnology Research Center at Georgia Tech is an example of the investments being made in nanotechnology by state and national governments. EL<sup>2</sup> researchers have been involved in assessing the commercialization challenges of the industry.





## Survey Finds Innovation Benefit for Manufacturers

The recession has expanded the business advantages of Georgia manufacturers that compete on the basis of innovation in new or technologically advanced products, processes, organizational structures, or marketing practices. These innovative companies are more than twice as profitable as firms competing on the basis of low price. Among other findings of the 2010 Georgia Manufacturing Survey: companies are preparing for post-recession growth, expanding export capabilities, addressing sustainability issues, and adjusting to in-sourcing and outsourcing. Based on responses from nearly 500 companies, the survey was conducted by EI<sup>2</sup>, **Georgia Tech's School of Public Policy**, and **Kennesaw State University**, with support from the **Georgia Department of Labor** and the accounting firm **Habif, Arogeti and Wynne, LLP**.

## Regional Project Maps Key Data for Nonprofits

EI<sup>2</sup> researchers supported the Regional Data Mapping Pilot Project, a partnership among five of Atlanta's leading nonprofit organizations. The goal was to gain greater insight into the needs, strengths, and challenges of delivering human services to residents in **Butts, Cherokee, Clayton, and Rockdale counties**. In collaboration with Georgia Tech's Center for Geographic Information Systems, EI<sup>2</sup> surveyed nonprofit organizations in these counties, conducted confidential interviews with community leaders, hosted focus groups with human services providers, and analyzed and mapped a broad range of data obtained from federal, state, and local sources. The findings have been used to help support decision making and grant applications.

## Understanding the Impact of Energy Policies

Researchers from EI<sup>2</sup> were part of a broad-based effort to help understand how state and federal energy policies affect the 12 states of the southeast United States and play a role in economic development efforts. In support of information gathering, EI<sup>2</sup> and **Georgia Tech's School of Public Policy** and **School of City and Regional Planning** collaborated to develop a knowledge base of economic development policies and outcomes, and clean energy policies. Researchers inventoried recent state-driven policies in the region and analyzed the potential impact of clean energy. The resulting recommendations, produced in partnership with the **Southern Growth Policies Board**, will assist the development of priorities for **The Energy Foundation**, a partnership of major donors interested in addressing world energy issues.

## Workshop Addresses Nanotechnology

Governments and companies worldwide are investing billions of dollars each year in nanotechnology research with the expectation of big economic development payoffs. Before that can happen, however, laboratory discoveries with commercial potential will have to be converted to useful products. The commercialization issues and challenges



The 2010 Georgia Manufacturing Survey analyzed the status of manufacturers in Georgia, identifying significant trends.

facing nanotechnology were addressed during March 2010 at the Transatlantic Workshop on Nanotechnology Innovation and Policy, organized by the **Georgia Tech European Union Center of Excellence** in partnership with the **Consulate General of Canada in Atlanta**; the **Center for Nanotechnology in Society (CNS-ASU)**; the **Georgia Tech School of Public Policy**; the **Georgia Tech Program in Science, Technology and Innovation Policy**, and the **Manchester Institute of Innovation Research** at the University of Manchester.

## Expanding SBIR Awards to Georgia Firms

EI<sup>2</sup> specialists knowledgeable about the federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs help Georgia companies learn about program opportunities, clarify regulations, and apply for grants. Since January 2009, the National Science Foundation (NSF) has made 23 Phase I and Phase II awards totaling \$6.8 million to Georgia companies, all of which had received assistance from EI<sup>2</sup>. Among the awardees is **VQLink**, an ATDC member company whose products allow automated monitoring of video stream quality. The NSF is one of 11 federal agencies participating in the SBIR/STTR programs.

## Demonstrating New Citrus Monitoring Technology

In collaboration with **Florida Citrus Mutual**, EI<sup>2</sup> technology transfer specialists have received a grant from the **U.S. Department of Commerce's Economic Development Administration** to evaluate a new technique for identifying and characterizing diseased citrus trees from the air. The 18-month evaluation, which began in July 2010, will use NASA technology to detect insect attacks and improve grove management and crop yield. The NASA-developed advanced remote sensing and plant stress detection technologies will provide early warning of disease outbreaks, permitting grove managers to better control the problems and reduce their economic impact.

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# Services to Health Care Providers



Health care has become a high-priority issue for Georgia businesses. EI<sup>2</sup> is working with organizations at the local, state, and national levels to improve the delivery of health care and accelerate the development of new medical devices and technologies. Projects include assisting primary-care providers with the implementation of electronic health records systems, planning the development of a statewide health information exchange, helping hospitals boost efficiency by adopting process improvement strategies, and launching the **Global Center for Medical Innovation (GCMi)** – which will create new jobs and expand innovation in the medical device industry.



Electronic health records systems improve access to patient information, such as test results. Here, Dr. Mark Cohen, the chief of quality, informatics and information technology for The Piedmont Heart Institute, discusses the results of an electrocardiogram with Michelle McElwee.



## Deploying Electronic Health Records

EI<sup>2</sup> is part of a new statewide effort aimed at encouraging the adoption of secure and confidential electronic health records systems (EHR) by primary-care providers, especially those that reach underserved portions of the state. The goal is to apply a community-oriented approach to outreach, education, and technical assistance – facilitating the adoption and meaningful use of these systems. The effort is part of a \$19.5 million federally-funded project led by the **Morehouse School of Medicine's National Center for Primary Care (NCPC)** to help primary-care physicians in smaller practices adopt comprehensive electronic health records systems. The project is being coordinated by the **Georgia Health Information Technology Regional Extension Center (GA-HITREC)**.

## Launching a New Medical Device Center

The Southeast's first comprehensive medical device innovation center has been awarded nearly \$4 million to build and equip a prototyping design and development facility that will accelerate the commercialization of next-generation medical devices and technology. The funding also supports the development of infrastructure to facilitate growth in the region's medical device industry. The **Global Center for Medical Innovation (GCMI)** has received support from the **U.S. Department of Commerce's Economic Development Administration**, the **Georgia Research Alliance (GRA)**, and from partner organizations that include the Georgia Institute of Technology, **Saint Joseph's Translational Research Institute, Piedmont Healthcare**, and the GRA. The GCMI facility is scheduled to open in October 2011.

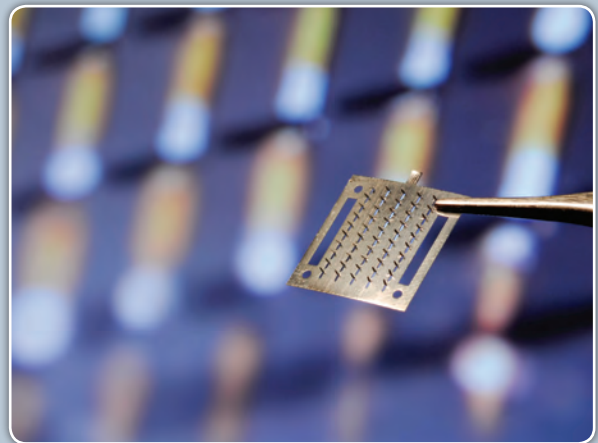
## Planning Georgia's Health Information Exchange

EI<sup>2</sup> has assisted the **Georgia Department of Community Health** in planning the implementation of the state's health information exchange (HIE). Health information exchanges improve the quality of health care provided to patients and reduce costs by helping providers coordinate care and obtain the latest information on health care best practices. Exchanges interconnect the electronic health records systems used by primary-care providers, specialists, hospitals, and others who serve patients as part of Georgia's health care delivery system. Federal regulations will soon require each state to have an operating HIE.

## Helping Hospitals Serve Patients More Efficiently

With assistance from EI<sup>2</sup>, the emergency department at **Piedmont Fayette Hospital** in Fayetteville, Ga. dramatically reduced the time required for such routine tasks as completing admissions paperwork, cleaning equipment, and locating supplies. As a result, the department was able to assist 21 percent more outpatients with the same level of staffing. The improvements resulted from the adoption of lean principles, an operational strategy that focuses on eliminating wasted activities while increasing value-added work. In health care, lean techniques can improve customer satisfaction and employee morale while reducing costs and the time required to serve patients.

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Microneedles designed to painlessly administer drugs and vaccines through the skin are among the medical devices being developed at Georgia Tech. The Global Center for Medical Innovation will help accelerate the commercialization of next-generation medical devices and technology.

# Connecting Companies to Georgia Tech



The Enterprise Innovation Institute (EI<sup>2</sup>) helps connect companies from around the world to the extensive capabilities of the Georgia Institute of Technology, a \$500 million research institution whose academic programs are currently ranked seventh among United States public universities by *U.S. News & World Report*. EI<sup>2</sup> specialists match corporate needs with Georgia Tech resources that include world-class research, unique and exceptional facilities, top U.S. science and technology students, and continuing education opportunities that can be tailored to specific industry needs.



Rusty Fish (left), systems operations manager for GE Energy, makes a point to Joy Hymel and Greg King of EI<sup>2</sup> during a visit to the new Smart Grid Center of Excellence at GE Energy's headquarters in Marietta, Ga.



## Supporting GE Energy's Expansion

EI<sup>2</sup> played a significant role in the development of **GE Energy's** Smart Grid Technology Center of Excellence, which opened recently near the company's headquarters in Marietta, Ga. The new center represents a \$15 million investment in Georgia that is expected to result in 400 new jobs over three years. GE Energy's commitment also means a substantial expansion of the existing GE/Georgia Tech research relationship, including establishment of a world-class, smart-grid innovation laboratory. EI<sup>2</sup> supported GE's expansion in numerous ways, including facilitating an extension of the Georgia Tech Professional Master's Degree in Applied Systems Engineering (PMASE) program to include smart-grid content.

## Supporting Firth Rixson in Liberty County

When **Firth Rixson Ltd.** selected Liberty County, Ga., as a potential manufacturing location, EI<sup>2</sup> identified relevant resources and expertise at Georgia Tech. Among the assets identified were capabilities in industrial and systems engineering, operations management, metallurgy and materials, tribology, advanced manufacturing, and aerospace structures. By early 2010, the British company had announced it would locate a new aerospace forging facility – Firth Rixson Forgings LLC – in Midway, Ga. The new 200,000-square-foot plant, which opened in January 2011, is expected to create more than 200 jobs.

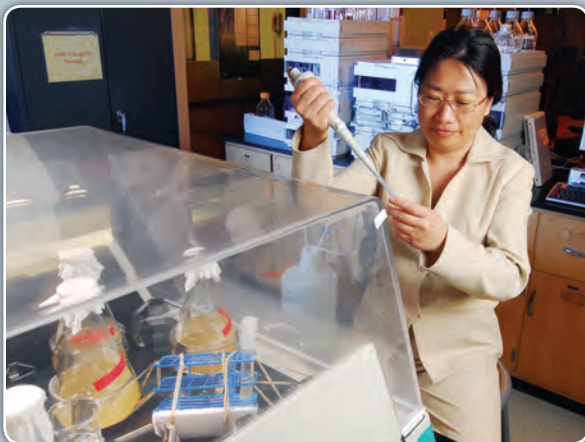
## Facilitating Collaboration with Korean Companies

KIAT, the **Korea Institute for Advancement of Technology**, has established a strategic partnership with Georgia Tech to collaborate on advanced research, development, and commercialization projects with small and medium-sized Korean companies. Working in cooperation with EI<sup>2</sup> staff, KIAT is seeking extensive Georgia Tech faculty participation in the program. The aim is to establish successful R&D relationships that will help smaller, fast-growing Korean companies put down roots in Georgia, as larger Korean companies like Samsung already have. The initial areas targeted for collaboration are machinery and materials, information technology, and biomedicine.

## Providing Continuing Education for Professionals

Georgia Tech offers ongoing professional education programs for U.S. companies, as well as the Department of Defense and other government entities. Professionals from EI<sup>2</sup> work with the **Georgia Tech Research Institute (GTRI)**, the **College of Engineering**, and **Distance Learning and Professional Education** to offer degrees and certificates tailored to specific company requirements. Options include the Professional Masters Degree in Applied Systems Engineering (PMASE) and systems engineering certificate programs. In the PMASE program, a practical part-time format applies systems engineering concepts and techniques to individual business problems through team-based projects, interactive labs, and a final capstone experience.

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Professor Rachel Chen in the School of Chemical & Biomolecular Engineering is performing collaborative research on the chemical 2,3-butanediol with a Korean company through the strategic partnership with KIAT. The work could lead to advances in the production of biofuels.



The multimedia wall in the Collaborative Visualization Environment (CoVE) will be used in the new Professional Master's Degree in Applied Systems Engineering.



# Services to Manufacturers



Georgia has approximately 10,000 manufacturers that together account for 11 percent of the gross state product. Georgia Tech's Enterprise Innovation Institute (EI<sup>2</sup>) provides a comprehensive set of services designed to help these manufacturers improve their ability to compete in world markets. Services include direct technical and engineering assistance, continuing education courses, networking opportunities, and connections to Georgia Tech resources. EI<sup>2</sup> is a NIST Manufacturing Extension Partnership affiliate and serves manufacturers throughout the state through EI<sup>2</sup>'s **Georgia MEP**.



Chris Downing (left), director of the Georgia Manufacturing Extension Partnership program, discusses process challenges with David Keller, vice president for manufacturing at E.G.O. North America Inc., in Newnan, Ga.



## Designing a New Manufacturing Facility

EI<sup>2</sup> engineers helped **Steeda Autosports** design a new building to facilitate the company's move from south Florida to Valdosta, Ga. A manufacturer of parts and accessories for the Ford Motor Company, Steeda was operating in four separate buildings when an EI<sup>2</sup> engineer met with company officials to evaluate the facility needs. Beyond consolidating operations, the new plant needed to improve material process flow to reduce both production time and costs. With help from EI<sup>2</sup>, the company has cut its cycle times by as much as 50 percent and changeover times by nearly a third, producing a 28 percent cost reduction. Steeda has so far invested \$8 million in its 35-acre Valdosta campus.

## Improving an Important Product

When **Super Lawn Technologies Inc.** of Fort Valley, Ga. needed assistance with manufacturing issues, EI<sup>2</sup> personnel applied both manufacturing principles and design engineering expertise to help the fast-growing company. The assistance helped Super Lawn Technologies develop a lighter, stronger, and more efficient hydraulic ramp system for the specialized trucks it builds for landscaping companies.

## Learning About Lean from Peers

The **Georgia Tech Lean Consortium** provides a forum and process for organizations to accelerate their learning and implementation of lean principles that are designed to systematically eliminate waste in manufacturing. Members alternate hosting benchmarking events at which they share their strategies for lean principles, challenges, and successes. Hosts receive feedback and suggestions for improvement, while the attendees take away ideas that can be adapted for use at their facilities. The Lean Consortium has 42 members in four different regional groups located around Georgia.



Tony Bass (left), owner of Super Lawn Technologies, talks with Georgia Tech's Bob Wray (center) and Alan Barfoot about design points of the specialized trucks that Bass' company manufactures in Fort Valley, Ga.

## Improving On-time Performance with Lean

Like most U.S. manufacturers, **Groov-Pin** – a manufacturer of engineered fasteners – was concerned about competition from overseas manufacturers. After visiting competitors in China, the company decided to pursue lean manufacturing techniques, and sent a representative to EI<sup>2</sup>'s lean boot camp, a four-day class that teaches how lean techniques impact profit, lead time, inventory, quality, and customer service. That exposure led to a series of kaizen, or rapid improvement, events that helped the Newnan, Ga. manufacturer streamline production scheduling, boosting on-time performance by nearly one-third – to 94 percent.

## Competing with Overseas Firms

The metal tube processing machines made by **Haven Manufacturing** in Brunswick, Ga. are used by manufacturers in a wide range of industries, and that has attracted powerful overseas competitors. To address the foreign competition, the company applied for assistance from the Southeastern Trade Adjustment Assistance Center (SETAAC), an EI<sup>2</sup> program that helps manufacturers develop and implement turnaround strategies. SETAAC helped the company prepare an application for the U.S. Department of Commerce, and once the funding was approved, developed an adjustment plan that included assistance in marketing and sales, web site development, and customer relationship management. The improvements, paid for partially by the program, helped boost sales and competitiveness.

## Cutting a Company's Energy Costs 11 Percent

EI<sup>2</sup> helped **Elan Technology**, a Midway, Ga.-based manufacturer of ceramic and glass components, implement a formal energy management system that has decreased energy use by 11 percent so far. After experiencing a tremendous increase in electrical costs, Elan contacted Georgia Tech to study the facility's energy consumption history and measure the major energy-consuming equipment. Based on EI<sup>2</sup>'s recommendations, Elan Technology purchased an ultrasonic leak detector and then developed and implemented a maintenance plan for future detection and repair of compressed air leaks. The company also switched out machine V-belts to increase energy efficiency. Elan manufactures ceramics for electrical and thermal insulation and glass components for hermetic seals.

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# Services to Entrepreneurs



Entrepreneurs play a vital role in creating new jobs and new investment. The Enterprise Innovation Institute (EI<sup>2</sup>) supports these entrepreneurs through a comprehensive set of initiatives. The **Advanced Technology Development Center (ATDC)** is a startup accelerator that helps Georgia technology entrepreneurs launch and build successful companies. ATDC includes the **VentureLab** process, which supports Georgia Tech researchers as they develop startup companies based on research innovations. Through the **Georgia SBIR Assistance Program**, ATDC helps companies win Small Business Innovation Research (SBIR) grants from federal agencies. The **MBDA Business Center (MBC)** in Atlanta, Ga., helps emerging and existing minority businesses experience growth and sustainability to have long-term economic impact through the creation of jobs and revenue.



Vendormate CEO Andy Monin poses in the company's offices. The firm was ranked 25th in *Inc.* Magazine's list of the top 500 fastest-growing companies.



## Vendormate Included in *Inc.* 500

ATDC graduate company **Vendormate** had an outstanding year in 2010, ranking 25th on *Inc.* Magazine's list of the top 500 fastest-growing U.S. companies, and winning new investment from Primus Capital, a Cleveland-based private equity firm. Launched in 2005, Vendormate provides a unique credentialing solution that enables health care, banking, and other clients to better manage their supplier networks and reduce the risk of partnering with fraudulent or fiscally irresponsible vendors. More than 1,200 hospitals now use the company's flagship product. Vendormate staff has grown to include more than 100 employees.

## CardioMEMS Pioneers Monitoring Devices

**CardioMEMS**, an ATDC graduate company that is pioneering a new class of monitoring devices for heart patients, completed a successful trial for its second product during 2010. That success resulted in a \$60 million equity investment from St. Jude Medical, a large medical device company based in Minnesota. CardioMEMS' devices combine wireless communications technology with microelectromechanical systems (MEMS) fabrication, providing doctors with more information about patients while making monitoring less invasive. The company, which now has more than 65 employees, grew out of Georgia Tech research.

## ATDC Restructures Services

As it began its fourth decade of supporting Georgia entrepreneurs, **ATDC** restructured its services to assist the nearly 400 companies that became part of the program when membership was opened to all technology startup companies in Georgia. ATDC's startup catalysts shifted their strategy from "one-to-one" assistance to "one-to-several" programming that included "ATDC Circles" for peer-learning, "ATDC Entrepreneurs' Night" for informal gatherings, and educational programs focused on such key topics as finding customers and raising funds. ATDC services are now offered through programs in Gwinnett County and in Alpharetta, extending ATDC's reach beyond its midtown Atlanta incubators. Similar programs are also offered to coastal Georgia entrepreneurs through the Savannah ATDC.

## Apica Cardiovascular Raises \$5 Million

**Apica Cardiovascular**, a Georgia Tech and Emory University medical device startup being assisted by the ATDC, has developed a system to simplify and standardize the technique for opening and closing the beating heart during cardiac surgery. The company's goal is to make the procedure for delivering therapeutic devices to the heart more routine for surgeons – potentially expanding the use of techniques that are less invasive and do not require stopping the heart. Apica recently received a \$5.1 million investment from Ireland-based Seroba Kernel Life Sciences and Israel-based Tri-Ventures.

## Consortium Attracts \$59 Million

With assistance from the **MBDA Business Center** (MBC) in Atlanta, Ga., a team of African-American-owned telecommunications businesses in Atlanta partnered to win a \$59 million U.S. Department of Commerce grant to provide a broadband communications network to an eight-county rural region of central Alabama. The team, made up of primary partners **Trillion Communications Corp.**, **A2D Inc.**, and **A-Plus Community Solutions**, won a contract that will not only create jobs, but also expand access to broadband in underserved communities.

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Apica Cardiovascular co-founders James Green, Vinod Thourani, Jorge Jimenez, and Ajit Yoganathan (left to right) point to the location on a heart model where their heart surgery system attaches.



Atlanta-based CardioMEMS is pioneering a new class of monitoring devices for heart patients.



# Access to Georgia Tech Resources



The Georgia Institute of Technology is one of the world's top research universities, ranked seventh among *U.S. News & World Report's* top public universities and second among U.S. universities for the volume of engineering research and development conducted. Georgia Tech has more than 20,000 students enrolled in its Colleges of Architecture, Computing, Engineering, Liberal Arts, Management, and Sciences, and is among the nation's top producers of women and minority engineers. Georgia Tech resources supplement the talents and expertise of EI<sup>2</sup> professionals.



Amy Cummings, a Georgia Tech co-op student from Monroe, Ga., works on engine parts inspection at the Delta Air Lines Technical Operations facility at Hartsfield-Jackson Atlanta International Airport.



## Examples of These Georgia Tech Resources Include:

Georgia Tech's **Distance Learning and Professional Education** (DLPE) program offers education and training in 40 major areas through short courses, customized training, certificate programs, and master's degrees that help professionals advance their careers, improve their skills, and stay in touch with industry best practices. Featured areas include assistive technology, defense technology, engineering, enterprise innovation, executive education, information technology and computing, languages, occupational safety and health, and supply chain and logistics.

The Georgia Tech **Division of Professional Practice** is home to Georgia Tech's popular undergraduate Cooperative Education (co-op) Program, which helps develop future leaders for Georgia employers by placing students into industry jobs. By alternating semesters of work and school, co-op students gain valuable real-world experience and give potential future employers an opportunity to evaluate them prior to graduation. Georgia Tech has the largest voluntary co-op program among tier-one universities in the United States.

The Georgia Tech **Manufacturing Research Center** develops and implements next-generation manufacturing technologies in a broad range of areas, including product and systems life-cycle management, precision machining, rapid prototyping/direct digital manufacturing, sustainable design and manufacturing, factory information systems, and aerospace manufacturing.

The **Georgia Tech Research Institute** (GTRI) is Georgia Tech's applied research unit. GTRI offers many resources of interest to Georgia companies, including:

- The **Accessibility Evaluation Facility** helps product designers measure the accessibility and usability of products and services – and how well they conform to domestic and international disability regulations.
- The **Electromagnetic Test and Evaluation Facility** can test virtually any kind of antenna using several different test ranges and laboratories.
- The **Environmental Safety and Occupational Health Center** oversees programs in compliance, sustainability, environmental emergency response, and occupational safety and health issues. It helps Georgia businesses and communities understand the changing government safety and workplace regulations.
- The **Food Processing Technology Division** develops new technology to improve the processing efficiency and enhance operations of the food processing and poultry industries. Researchers work on computer vision technologies, robotic systems, intelligent processing systems, food and worker safety systems, and other technologies.

The **Supply Chain and Logistics Institute**, part of the top-ranked School of Industrial and Systems Engineering, applies scientific principles to optimize the design and integration of supply chain processes, infrastructure, technology, and strategy. It focuses on developing new tools for analysis, design, and management of logistics processes, and new concepts and strategies for the practice of supply chain engineering.

The **School of Public Policy** is one of the world's top programs in the field of science and technology policy. The school is a university partner in the European Union's network of excellence in technology and innovation policy, and hosts international conferences on science and technology policy. Among the areas of interest are the environment, communications, transportation, biotechnology and health, urban development, and workforce and education.

Georgia Tech's new **Institute for People and Technology** serves as a catalyst for research activities that pursue transformations in health care, education, consumer media, and other complex human enterprises by integrating advances in human-centered computing, architectural and digital design, policy, and systems science and engineering.

The **Nanotechnology Research Center** is the largest facility of its kind in the Southeast, housing laboratories for both semiconductor- and biologically focused nanotechnology. Facilities, equipment, and expertise at the center are available to companies interested in interdisciplinary research in micro- and nano-fabrication and characterization.



Kraft Foods used GTRI's arthritis simulation gloves to verify that the Maxwell House instant coffee EZ Grip lid was accessible by consumers who have difficulty opening jars with regular caps.



The services of the Enterprise Innovation Institute are available throughout Georgia.

Contact your nearest Georgia Tech Regional Office for assistance.



### Georgia Tech Regional Network

North Metro Atlanta:	678-699-1690
South Metro Atlanta:	404-895-5237
Northwest Region:	770-387-4002
Northeast Region:	770-718-3982
West Region:	706-881-0535
Central Region:	478-275-5125
Augusta Region:	706-721-4522
Coastal Region:	912-963-2519
South Region:	229-430-6195
Atlanta Headquarters:	404-385-3871

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