

## The Finger Lakes Partnership: An Abstract

In the face of increasingly critical economic conditions, leaders within New York State's Finger Lakes region are proposing to link the communities of education, workforce development and economic development, creating an entrepreneurial, industry-driven, integrated system. The nine-county Finger Lakes region is undergoing an historic restructuring — it came to depend on the successes of Eastman Kodak Company, Xerox Corp., and Bausch & Lomb, creating a big-company manufacturing culture that has floundered as technologies changed and global economic shifts left the region in a state of decline. This project proposal to the US Department of Labor is based on a deep commitment to creating fundamental change in our region. The *Finger Lakes Partnership* has been designed and will be implemented by a strong team of business, investor, entrepreneurial, philanthropic, government and academic leaders who share a vision **to transform the Finger Lakes region into a premier place in which to innovate, one that invests in entrepreneurial operations, and trains workers, empowering them to be agile, adaptable, and aligned with global opportunities.** Calling on the expertise of the Partnership founders, we propose key strategies to support four project goals: **1) energize the region's entrepreneurial economy; 2) catalyze regional innovation; 3) empower workers to succeed in the global economy; and 4) build 21<sup>st</sup> Century innovation infrastructures.** This project will result in strategic outcomes closely aligned with DOL objectives and robust enough to sustain its initiatives for the long-term.

The Finger Lakes region was once among America's most innovative and entrepreneurial. The decline of its large manufacturers in the last two decades is evidenced by increasing poverty and unemployment, decreasing wages, low graduation rates and sluggish job creation. The area has responded by cultivating technology development organizations and funding services and facilities for start-ups. Economic analysis, however, highlights an absence of integrated collaboration and sharing of best practices among regional stakeholders; this has created a barrier for transforming the Finger Lakes region into an innovative and entrepreneurial economy. A report prepared by the US Council on Competitiveness for two local organizations reinforced this conclusion: *"Greater Rochester has the assets necessary to develop a strong entrepreneurial economy. Indeed, the Rochester area surpasses most regions in the U.S. on many dimensions relevant to supporting innovation and entrepreneurship. However, to date, the region has not become an entrepreneurial success story...A fundamental challenge is cultural - the region lacks a strong entrepreneurial environment."*

The twenty-one members of the Partnership represent critical leadership throughout the Finger Lakes region; strategic leaders from all sectors have endorsed this proposal and are poised to be agents for change in the region. **RochesterWorks Inc.**, the non-profit arm of the Monroe County/Rochester Workforce Investment Board (WIB), will lead the project, employing the project management team, facilitating partner projects and maintaining communication among regional, state, and federal stakeholders. In cooperation, the **Genesee, Livingston, Orleans, and Wyoming WIB** and the **Finger Lakes WIB** (comprised of Ontario, Seneca, Wayne, and Yates counties) will connect the initiatives to job seekers, employers and education systems. Government partners include the **City of Rochester**, the **County of Monroe**, **Empire State Development** and **Genesee/Finger Lakes Regional Planning Council**, which represents eight rural counties and is the planning entity for the New York State-designated Economic Development District. Public / private entrepreneurial leaders for this project are **Greater Rochester Enterprise, High Tech**

**Rochester, Infotonics Technology Center, Rochester Business Alliance, and the Cornell Agriculture and Food Tech Park.** The academic community is represented by the region's leading universities (**University of Rochester** and **Rochester Institute of Technology**) and the three community colleges (**Finger Lakes, Monroe** and **Genesee**). Over twenty letters of support from key businesses represent diverse interests throughout the region. Led by the business community, private and public sectors formed Greater Rochester Enterprise three years ago; the community has shown it is now willing to work together in ways that were not possible a few years ago. This same commitment is evident in this proposal: the partners that have joined together to increase worker skills are placing an emphasis on the talents of its entrepreneurial community and the sharing of infrastructure, leveraging each other's strengths, all of which will amplify the region's capacity for innovation and build a stronger economy. The investment community is an important partner, represented by the **Rochester Angel Network** and **Trillium Group**, a local venture capital firm. Philanthropic support for regional job creation and entrepreneurship is given by **Rochester Area Community Foundation**.

The Partnership has identified seventeen measurable outcomes of this project, including: increased employment and retention; improved earnings and reversed decline in wages (relative to the national average); increased job growth and the number of start-up companies, including from orphan technologies; improved employer satisfaction; involvement of high school students and teachers in entrepreneurial activities; increased participation in training by companies and individuals, including training of would-be entrepreneurs and innovators in high-growth sectors; doubled participation in business development; creation of industry-led clusters that stimulate sector growth; and economic development intervention with companies identified as high-risk. The outcomes will directly involve and impact thousands of people and improve the business climate for the 1.2 million residents of the Finger Lakes region.

The lead organization for the Partnership will be RochesterWorks, Inc. The Governing Board, consisting of presidents (including one representing the eighteen schools of the Rochester Area Colleges), CEOs or chairs from partner organizations, a school superintendent representative, and chief elected officials of the region, will set overall strategy for the Partnership to ensure the project addresses continually its mission of regional transformation. The Operations Team, managers from partner organizations, will ensure region-wide engagement and project execution and initiative sustainability after the funding period. Implementation Teams will oversee the four initiative areas: entrepreneurship, innovation, workforce development and economic development. Each team, interdisciplinary by membership, will coordinate specific initiatives and manage the application process from within the region for two funds embedded in this proposal: the *New Initiatives Fund* and the *Workforce Innovations Fund*. A National Advisory Panel of seven internationally recognized experts will assure the Partnership is utilizing best practices effectively and will help the Partnership accelerate the integration of economic and workforce development, which is central to this project.

The Finger Lakes Partnership requests funding from the United States Department of Labor of nearly five million dollars annually for three years. This will leverage over \$22 million of relevant partner funding. The funding will catalyze the region, resulting in a true integration of powerful resources, propelling our economy from a period of slow decline to one of national leadership in regional innovation and entrepreneurship.

## **Part B – Technical Proposal**

### **The Finger Lakes Partnership**

The Finger Lakes region in Upstate New York is undergoing an historic economic restructuring. The region came to depend on the successes of organizations such as Kodak, Xerox, and Bausch & Lomb, creating a big-company manufacturing culture that eventually floundered as technologies changed and global economic shifts left the region in a state of decline from which it has not yet recovered. The evidence is persuasive: increasing poverty and unemployment compounded by decreasing wages, low graduation rates and sluggish job creation. While there have been focused efforts by many organizations to support diversification of the region's economy, analysis shows that such efforts have had minimal impact as they lack a key ingredient: regional collaboration. The Finger Lakes Partnership will bring these efforts together and align them throughout the region to increase the impact as partners increase the skills of the region's workforce, improve the conditions for innovation and entrepreneurial success and build an economic development infrastructure that aligns the workforce development system to regional economic development strategies in such a way that can be sustained for decades to come. We propose to establish an integrated structure and create systemic change, which will propel us to meet our mission: **to transform the region into a premier place in which to innovate, one that invests in entrepreneurial operations and trains workers, empowering them to be agile, adaptable and aligned with global opportunities.**

#### ***A) Strength of Partnership***

Today, change is in the air as numerous civic, business, investor, academic, entrepreneurial and philanthropic leaders from New York State's Finger Lakes region formed a collaboration that is critical if our region is to capitalize on its strengths and bridge the gap between the needs of today's workforce and the emerging new economy. These leaders from a nine-county region (see Attachment A), with the City of Rochester as its metropolitan center and the counties of Genesee,

Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming and Yates with a population of 1.2 million, have joined forces to form the **Finger Lakes Partnership** (the “Partnership”).

**Strategic partners and their roles.** **RochesterWorks Inc.**, lead organization for the Partnership, will employ the project management team, facilitate partner projects under the initiative and maintain communication among regional, state and federal stakeholders. **Workforce Investment Boards** (WIBs) will partner with RochesterWorks, providing information to regional businesses, job seekers and partners, aligning resources and WIB activities to maximize resources, and assisting in recruiting businesses and job seekers to utilize the Partnership programs. Boards will share best practices throughout the region, especially to support emerging and dislocated workers. **Empire State Development**, the State’s economic development agency, the economic development departments of the **City of Rochester** , **Monroe County** and the surrounding eight counties, will provide financial and technical assistance to companies looking to grow and develop within the region to encourage job creation and retention, increased investment, and community revitalization. **High Tech Rochester** will drive tech commercialization and new business formation and growth in emerging industry sectors while strengthening competitiveness of small manufacturers. The region’s 18 two- and four-year colleges and universities will enhance the Partnership’s mission through their unique expertise. **Genesee Community College** will provide training and consulting to businesses and individuals utilizing its Business and Employee Skills Training Center. **Finger Lakes Community College** will assist current and prospective small-business owners through its Small Business Development Center while its Northeast Biomanufacturing Collaborative will train technicians to meet the needs of the region’s growing biomanufacturing industry. **Monroe Community College** will coordinate career pathways that link K-12 programs with apprentice and technical programs while developing shared-use labs to provide competency-based training in disciplines such as optics and imaging, precision manufacturing and

biotechnology. **Rochester Institute of Technology** will conduct training in certificate courses and entrepreneurship and create development tools, including roadmaps for targeted industry sectors. The **University of Rochester** will initiate a Master's degree in Science, Technology and Commercialization, accelerate technology licensing and share its Kauffman entrepreneurship learning. **Rochester Area Colleges**, a consortium of the region's 18 college and universities, will participate on the Partnership's Governing Board. **Genesee/Finger Lakes Regional Planning Council**, planners for the nine-county Economic Development District, will provide technical support and data needed for implementation of the Partnership. **Infotonics Technology Center** will help create technology solutions for entrepreneurs who might otherwise risk failure for lack of a complex capital-intensive infrastructure and partner in the prototyping and commercialization of new technologies. The **Cornell Agriculture and Food Technology Park** will create new businesses in the life sciences and food sectors. **Greater Rochester Enterprise**, a marketing and economic development organization supported by private and public sector leaders, will spearhead projects dedicated to improving regional economic performance. **Rochester Angel Network**, a consortium of early stage investors, will provide critical early stage capital investments while offering investor perspectives to guide the project. The **Trillium Group**, a venture capital firm managing \$60+ million, will invest in early stage technology ventures and offer the perspective of the professional investor. The **Rochester Business Alliance** will provide customized training, regional survey data and connection to its 3,000+ business members in the nine counties. **Rochester Area Community Foundation** will identify and respond to the community's continuing priorities and provide a vital linkage to the philanthropic sector.

**Coordination among partners.** RochesterWorks will be the lead organization for the Partnership, employing staff; facilitating projects; and maintaining communication among regional, state and federal stakeholders. RochesterWorks was chosen to serve as lead due to its non-profit

status, federal program expertise, and ability to connect key business, education, and economic development partners in an objective manner. The Partnership will attend all required USDOL meetings to communicate progress of our project and to benefit from national technical assistance and best practices. It will also oversee receipt and disbursement of WIRED funds, project accounting, data collection and project reporting. The organization manages over \$6 million annually in employment and training resources, serving job seekers and businesses through the workforce development system. As staff and fiscal agent for the WIB, RochesterWorks administers resources allocated under the Workforce Investment Act, Trade Adjustment Act and Temporary Assistance to Needy Families programs.

To manage the project, RochesterWorks will convene twice a year a Governing Board comprised of public and private sector leaders and key policy makers (chief executive, board chair or chief elected official) from Partnership organizations listed in Attachment B. An Operations Team, comprised of managers from founding partners, will guide project implementation and communication on region-wide initiatives. To accomplish project goals, Implementation Teams will coordinate initiative areas: **1) Workforce Development, 2) Entrepreneurship, 3) Innovation and 4) Economic Development**. Each Team will have participants from relevant disciplines and also be cross-functional (see Attachment F for organizational chart). Collectively, the Governing Board, Operations Team, and Implementation Teams will work with a fulltime Managing Director (see Attachment H for job description) to facilitate implementation of Partnership activities. The Managing Director, employed by RochesterWorks, will ensure that objectives are met and aligned to the original purposes of the WIRED Initiative as set forth in the Grant Solicitation.

A National Advisory Panel, meeting annually with the Partnership, will provide guidance, insight into best practices and recommend policies to accelerate economic development ventures. Seven nationally recognized experts in workforce, economic development, tech

commercialization, and entrepreneurship disciplines (included in Attachment G) have confirmed their participation in the panel.

## **B) Statement of Need**

Partnership members have participated in national conferences and carefully examined many national and state studies including *Innovate America* and *Rising Above the Gathering Storm*. Additional studies by organizations as diverse as the Brookings Institution and the Public Policy Institute have cited specific challenges and needs of Upstate New York and the Finger Lakes region. A coherent, integrated analysis, *Fanning the Flames of Economic Progress: Igniting Greater Rochester's Entrepreneurial Economy*, prepared by the U.S. Council on Competitiveness for the Infotonics Technology Center and Greater Rochester Enterprise, was released in September, 2004. Many of its findings, including its identification of regional strengths and growth industries, and of the need to coordinate existing economic development initiatives, provided a framework for the planning that resulted in this proposal.

There is agreement that the region possesses many assets needed to restore entrepreneurial and innovative vitality, but these resources have not yet coalesced nor yielded significant success. *Fanning* postulated: “*Greater Rochester has the assets necessary to develop a strong entrepreneurial economy. Indeed, the Rochester area surpasses most regions in the United States on many dimensions relevant to supporting innovation and entrepreneurship. However, to date, the region has not become an entrepreneurial success story. . . . A fundamental challenge is cultural -- the region lacks a strong entrepreneurial environment.*”

The Partnership in the years of the WIRED project will address specific barriers:

**Entrepreneurship:** *Fanning* reported that Rochester was rich in intellectual property, but most of it was “tied up” in major corporations and universities, that there is a lack of personnel with entrepreneurial background and that the historical job-creation of our principal employers would no

longer be a source of increased employment. The very success of major firms has led to the need to energize the region's entrepreneurship economy.

**Innovation:** To accelerate regional growth, we must accelerate commercialization of technology and broaden adoption of process innovations to strengthen and grow existing and new companies. Using 2000 data, *Fanning* found that the University of Rochester ranked only 102<sup>nd</sup> of 117 universities nationally in the number of licenses executed relative to the number of inventions disclosed. Moreover, the university formed only three start-ups over the three-year study, placing it 85<sup>th</sup> on the list. These outcomes have improved since 2000, but must be accelerated even further.

**Workforce:** More than twenty percent of workers are underemployed in the region. Partners will transform the education and training system to increase the skills of such workers and link them to the knowledge based and technical positions that are in demand. In addition, emerging workers need to be provided with the entrepreneurial and technical skills required in growing industries. Partners will work closely with local school systems and colleges to establish career pathways that will increase the number and quality of job seekers pursuing entrepreneurship and technical education. Entrepreneurial and technical training opportunities will be increased for current and dislocated workers throughout the region.

**Economic Development Infrastructure:** The region is rich with community resources. Overall regional effectiveness, however, has been hampered by multiple and sometimes duplicative activities occurring without broad engagement across organizations. As the region transforms itself into an innovation economy, economic development and community resources must work differently – using collaborative research to drive regional decision-making, combining resources, and developing common goals and objectives to align regional activities. The Partnership will address specific issues:

- Fragmented research and data-collection for regional innovations, workforce and economic development data, regional assets, and other such metrics
- Inconsistently defined and articulated clusters and a lack of robust cluster activities
- Lack of full community engagement in regional economic development efforts

**Economic and labor market conditions.** The following conditions demonstrate factors that necessitated this project and helped to frame its goals:

### **Unemployment**

- ◆ While the region’s unemployment rate of 4.9% mirrors the national average, labor force participation continues to decline as more individuals of working age are not participating in the labor market.

### **Underemployment**

- ◆ There are more than 105,000 underemployed residents through the region, more than twenty percent of the total labor force. Underemployed refers to residents employed below their previous job levels or educational training.<sup>1</sup>

### **Population growth/decline**

- ◆ Emerging industries are concerned about the lack of population growth as they deal with an aging workforce whose skills do not match current requirements.
- ◆ The 2000 Census revealed that Finger Lakes region population growth in the 1990s had been slower than every state except North Dakota and West Virginia.
- ◆ Finger Lakes population of ages 20-34 dropped by over 22% in the 1990s.<sup>2</sup> This age group is projected to decline by 0.4% (2003-2008) in the region, compared to a projected increase of almost 2.5% nationally.<sup>3</sup>
- ◆ Finger Lakes population is projected to grow by only 1% between 2003-2008; much slower than the national rate of 9.9%.<sup>4</sup>

### **Low Average Wages**

- ◆ The region’s average wages exceeded the U.S. average in 1980, but are now below state and U.S. averages.
- ◆ Professional, scientific and technical services industry sector earnings are 72% of the state average and 93% of the national average. Information sector earnings are 80% of the state average.
- ◆ According to Milken’s Best Performing Cities, Rochester ranks 191st for five-year salary growth.<sup>5</sup>

### **Job Creation**

- ◆ Lack of innovation and entrepreneurship coupled with large manufacturer layoffs has led to stagnant job growth in the region.

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<sup>1</sup> 2004 State of the Workforce Report. *Preparing a Workforce for the New Economy*. RochesterWorks, as prepared by Wadley-Donavan Group.

<sup>2</sup> “*Could New York Let Upstate Be Upstate?*” Public Policy Institute. May 04. [www.ppiny.org](http://www.ppiny.org).

<sup>3</sup> 2004 State of the Workforce Report. *Preparing a Workforce for the New Economy*. Noted above.

<sup>4</sup> Gardner, Kent. *State of Rochester’s Economy*. Oct 2005. Center for Governmental Research.

<sup>5</sup> Milken Institute. *Best Performing Cities (Top 200 Metros)*.

- ◆ The U.S. has experienced a 20.1% increase in total jobs, the Finger Lakes region, in contrast has increased jobs only 0.3%.<sup>6</sup>
- ◆ According to Milken's Best Performing Cities, Rochester ranks 172nd for five-year job growth.

### **Layoffs**

- ◆ The negative impact of the lack of job growth is magnified by the massive layoffs from large, traditional manufacturers such as Bausch & Lomb, Fisher-Price, Kodak, Valeo, and Xerox.
- ◆ In the manufacturing sector as of September 2005, Finger Lakes jobs are down 36.7% since 1990.
- ◆ Unprecedented losses in the manufacturing sector: Kodak reduced its local workforce from 62,000 in 1982 to 16,300 in 2005, with 3,500 to 4,500 additional cuts predicted within the next three years. Xerox has also reduced 3,000 staff since 2000.
- ◆ In 2004, Tyco Plastics, with two plant closings, eliminated nearly 200 employees. General Motors closed its field office eliminating 50 local jobs. Harris Interactive cut 162 jobs and Pactiv Corp. downsized its technical and manufacturing plant, eliminating 85 jobs.

### **High School Graduation Rates**

- ◆ The development of a skilled workforce for the future is impacted by a lack of success in some of the region's secondary institutions.
- ◆ Slightly less than 50% of students in the Rochester City School District earned diplomas in 2004.

**Impact of foreign trade.** Global economic shifts are a primary indicator for the dramatic economic decline of the region. The transition of manufacturing jobs from area employers has translated to tens of thousands of job eliminations in the last decade. NYS accounts for 10.7% of the nation's loss in manufacturing from May 2003 to May 2004 as India, the Philippines and China are becoming hubs for manufacturing and service outsourcing. National competition also threatens the local economy, manifested in plant relocations or closings, as cited above.

**Regional industries in decline and those targeted for growth.** Although our large manufacturers have declined dramatically, a highly educated and technically competent workforce continues to reside in the Finger Lakes. Educational achievement levels are above state and national norms. As the region examines its role in a new economy, growth sectors emerge and align logically with mapped regional resources. These have high potential to leverage intellectual property and stimulate high wages and advancement opportunities for its workforce. Specific sectors targeted for

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<sup>6</sup> Gardner, Kent. *State of Rochester's Economy*. Oct 2005. Center for Governmental Research.

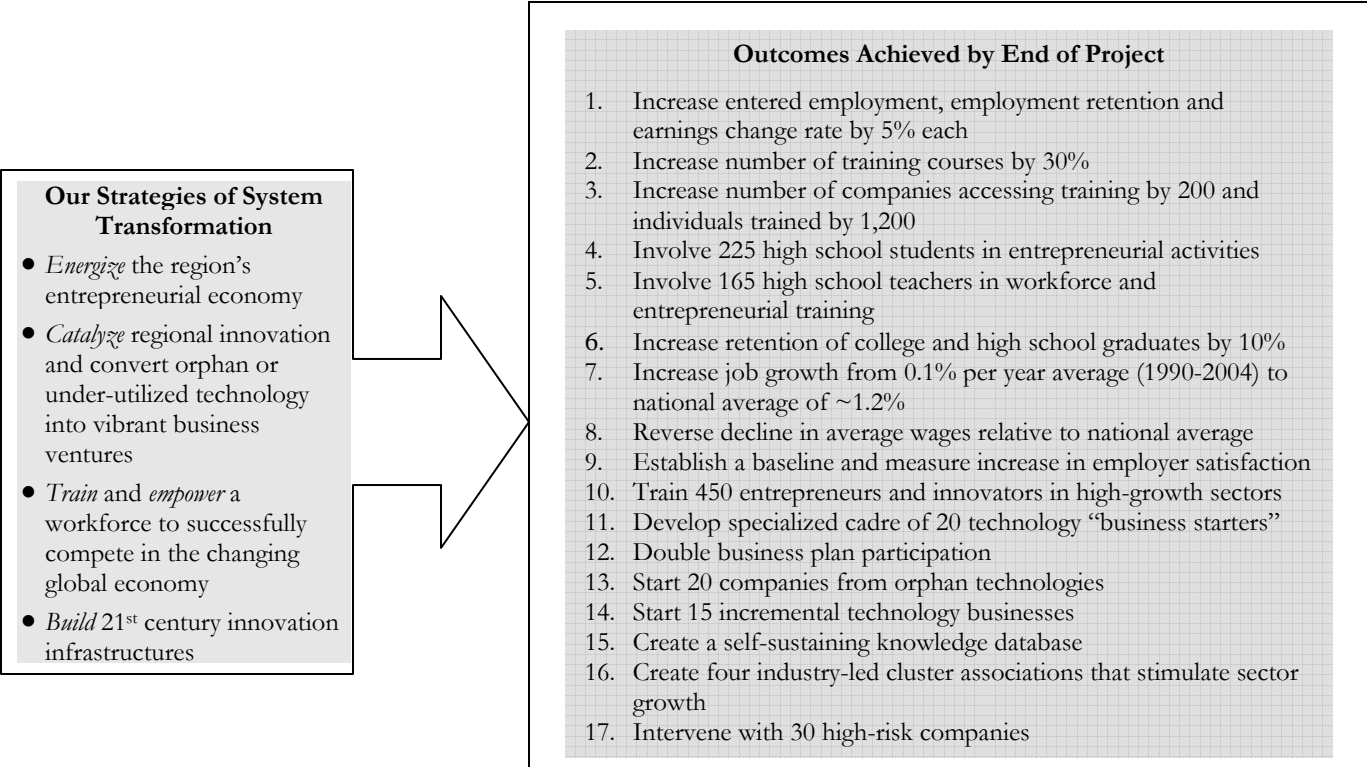
growth and expansion include: Optics & Imaging, Biotech & Life Sciences, Food & Agriculture, and Alternative Energy. The project will leverage our regional competencies in Advanced Manufacturing, Information Technology and Business Support Services. These competencies include a workforce that is urban and rural, educated, and largely technology-based.

**Regional Revitalization Efforts.** Regional revitalization efforts have institutionalized key activities that will further transform the economy to be market-driven, innovative and entrepreneurial. NYS has designated the Infotonics Technology Center as a Center for Excellence; this industry-led R&D center has received over \$150 million in funding from federal, state and private sources in support of advanced product development in photonics and microsystems. Empire State Development has invested \$26.4 million in projects to promote job creation and businesses growth. It recently instituted the Manufacturing Assistance Program, which provides grants to upstate companies investing in productivity gains but without the traditional job-creation requirements. Greater Rochester Enterprise has been instrumental in marketing the region and compiling and dispensing data to assist state and local economic development agencies. High Tech Rochester's technology incubator has served over 100 companies since 1997, jointly created the Rochester Entrepreneurship Conference, launched a Rochester Regional Business Plan Contest in 2005 that attracted 39 entrants and prizes of \$75,000, piloted an orphan technology initiative that created a rapidly growing optics company, and worked with hundreds of small manufacturers through its Manufacturing Extension Partnership. Several partners operated the *Upstate Alliance for Innovation* from 2000-2004 with funding from the National Science Foundation. The *Alliance* helped to create an infrastructure for research commercialization and to connect university researchers, administrators, technology transfer offices, business builders, and venture capitalists. The *Alliance* creates a strong foundation for this project. The Partnership will unify, coordinate and transform these and other disparate regional development activities.

**C) Strategies for System Transformation**

Our region is missing an integrated vision that encompasses the innovation process across all sectors and serves as the central driver of our economy. The Partnership aligns strategic players in workforce development, research, education and economic development to create a community of innovators—people who will energize the region with inventions, business start-ups and new wealth. The Partnership is a collaboration of key organizations; strong enough to implement this project, create systemic change, and ensure the spirit of innovation and collaboration continues long after the Department of Labor funding.

**Four goals** will drive the Partnership: 1) Energize the region’s entrepreneurial economy, 2) Catalyze regional innovation, 3) Empower workers to succeed in the global economy, and 4) Build 21<sup>st</sup> Century innovation infrastructures. The project will result in strategic outcomes as illustrated below. Through shared governance and implementation by cross-functional teams, these efforts will realize synergies among existing efforts and new initiatives under the WIRED project.



## **Goal #1: Energize the region's entrepreneurial economy.**

Anticipated outcomes include new business formation, greater capital investment (including grants such as SBIRs), high-quality business starts, more substantive intellectual property from research institutions, greater participation in structured business assistance and mentoring programs, increased employment in young firms, increased company revenue, and wealth creation for employee-owners and investors enabling a virtuous cycle of re-investment.

*Fanning* identified that the region's weakness in new firm creation (49<sup>th</sup> among the 50 largest U.S. MSAs in 2000) is the result of: 1) weak entrepreneurial culture, 2) shortage of experienced entrepreneurial managers, and 3) lack of venture capital (institutional VC funding is less than 20% of U.S. per capita average). The Partnership will address each of these through an integrated program built upon the region's strong incubators and shared use facilities, effective SBDCs, recently established angel capital network and existing venture capital funds, and focused, aligned support efforts of its members. The Partnership will leverage NYS's investments in innovation and technology transfer and the University of Rochester's \$14 million Kauffman Campus Initiative (one of eight universities funded by the Foundation to accelerate entrepreneurship in academe). Finally, the Partnership will build the foundation for long-term entrepreneurial success by engaging young people and expanding participation among underserved audiences such as women, minorities and the deaf (Rochester is home to the largest per-capita concentration of deaf and profoundly hard-of-hearing persons and RIT's National Technical Institute for the Deaf).

Principal activities the partners will undertake include: **Increase entrepreneurial human capital** in terms of quantity and expertise; **broaden participation** to provide needed talent while expanding societal benefits to all of our citizens; **eliminate early stage capital gaps** by aligning existing sources and nurturing new sources; and **strengthen the entrepreneurial culture** to ensure

full support from academic, government and private sector resources. These activities will be tightly integrated with the Partnership's Innovation strategy described later.

**Increase Entrepreneurial Human Capital.** The Partnership will train dislocated workers and others through certified entrepreneurial programs, including immersion training and boot camps that lead to increased innovation and small-business success. The supply of skilled entrepreneurial start-up management will be increased using FastTrac curricula and university-based entrepreneurship. A unique MS in Science and Technology Commercialization program will be launched at the University of Rochester in collaboration with the University of Texas IC<sup>2</sup> (the world famous institute for Innovation, Creativity and Capital). Entrepreneurial training in a four-week immersion format in collaboration with the IC<sup>2</sup> consulting division will be offered through RIT for recently laid-off middle managers and engineer/scientists. The entrepreneur boot camp immersion event piloted in 2003 for 37 first-time entrepreneurs will be updated and offered annually. The MIT-based Venture Forum will be considered for replication region-wide. Expand High Tech Rochester's successful entrepreneur-in-residence program to provide a cadre of high-impact mentors and advisors to inexperienced entrepreneurs. A "homecoming" campaign will be launched aimed at natives or college graduates who have experience in entrepreneurial ventures and whose return home would expand and strengthen the region's entrepreneurial management base.

**Broaden Participation.** Since 2003 the University of Rochester has been teaching entrepreneurship in a class where half of the students are working on their MBA and half are in graduate programs in science, medicine or engineering. A similar course will be developed at the region's three community colleges. A business plan contest will be held among students from the three community colleges. Greater Rochester Enterprise's international business plan competition with eight New York and Ontario, Canada, communities vying for a \$300,000 purse, will be expanded. Junior Achievement will organize a high school contest with prizes including a free year

of tuition at any college or university in the region. The local Public Broadcasting Station will develop a program on starting a business. *Innovation Place*, a powerful new learning environment for the region's elementary and middle school students, will be launched at the Rochester Museum & Science Center. Students will view their hometown as a place of significant employment opportunities with this direct connection to innovation invented in the region and the innovators who developed new ways to bring inventions to market. This initiative will fund prototype exhibits and curriculum.

**Eliminate Early Stage Capital Gaps.** An annual "Seed Investing as a Team Sport" seminar will be offered to educate angels, entrepreneurs and service providers on early stage investment

New Scale Technologies is a three-year-old company poised for dramatic growth as its precise, small-scale motor is adopted in products such as cell phones and medical devices. They have leveraged coaching, mentoring, and capital raising from Simon School MBAs and HTR entrepreneurs-in-residence. Infotonics is engaged in prototype development. GRE's Rochester Angel Network has invested alongside Trillium's early stage VC fund.

process. Enhanced SBIR assistance will be offered to enable more companies to write winning proposals. The region's existing pre-seed public fund, Excell Partners, will be expanded. New pools of early stage capital will be sought; for example, the Rochester Angel Network has taken initial steps to establish an angel fund, and expansion of Trillium funds will be pursued. Bridge funding will be provided to attract a top-tier VC to locate in the region.

**Strengthen the Entrepreneurial Culture.** Regional leaders in business, government, economic development and higher education need to understand 21<sup>st</sup> Century models for innovation and technology commercialization. A series of events, beginning in 2006 and continuing for at least three years, will educate practitioners and thought leaders. Hosting national conferences will rapidly infuse best practices into our region and provide exposure. We will build on the National Association of Seed and Venture Capital Funds, which will hold its annual conference in Rochester in 2006. The Rochester Entrepreneurship Conference, initiated in 2003, will become a signature event for the Partnership, enhanced to attract a northeast regional audience in 2007 and beyond. Media

partnerships will be expanded to bring greater attention to entrepreneur successes and experiences. Elected officials will be engaged in sessions about entrepreneurship and innovation regional characteristics beginning in 2006.

**Goal #2: Catalyze regional innovation and convert orphan or underutilized technology into vibrant business ventures.**

Anticipated outcomes include increased licensing of academic and corporate intellectual property, increased new business formation, more new products and process improvements in existing manufacturing and tech companies through technology infusion, greater capital investment, increased employment in young firms and established companies, increased company revenue, higher licensing revenue for academic and corporate research institutions, and wealth creation for employee-owners and investors enabling a virtuous cycle of re-investment.

The Partnership will enable the region to convert its considerable inventive capabilities into commercial ventures that create jobs, wealth and new innovations. Four barriers have been identified: 1) Lack of specialized entrepreneurial management that can link technology to market opportunities, 2) Inaccessible corporate research orphan technologies, 3) Academic research not easily accessible on terms and cycle times that support business success, and 4) Insufficient risk capital for pre-seed stage. The Partnership will address each barrier through methodologies and programs already proven in the region but not yet integrated in scale to the full opportunity. The Partnership will leverage NYS's major investment in academic research, the Infotonics Technology Center and the Regional Technology Development Center. The Partnership will enable long-term sustainability by securing equity and/or royalty upside from commercial ventures made possible by its programs and investments.

Principal activities the partners will undertake include: **Improve identification of research institution technologies** that can become business opportunities; **accelerate technology transfer**

to start-up and existing companies; **create more companies** by bringing together the intellectual property, skilled entrepreneurs and smart capital; and **establish innovation test beds** that leverage identified regional clusters plus the arts and healthcare. The Partnership will establish a **“New Initiatives Fund”** for innovation and entrepreneurship. The fund allows the Partnership to stimulate creative proposals from partners and from other sources that may have excellent new ideas, to be responsive to new information, and to apply spending to projects that meet national benchmarks. It will be a tool for inspiring and rewarding integration and transformation.

**Improve Identification of Research Institution Technologies and Accelerate Technology Transfer.** The region has programs to identify and assess promising technologies at the University of Rochester and Rochester Institute of Technology. Small scale efforts, such as the High Tech Rochester orphan tech initiative, have examined corporate technologies. The need is to adopt best practices, identify skilled practitioners, gain full endorsement of relevant institutions and expand efforts to fully leverage the wealth of unexamined inventions. Three approaches will be implemented: 1) Market opportunity assessment, 2) Pre-seed workshops, and 3) Independent technical and market expert evaluation. Market opportunity assessments are currently done by High Tech Rochester and teams of graduate students (MBA and technology) at the University of Rochester. These approaches will be compared to the University of Texas at Austin IC<sup>2</sup> QuickLook methodology and an appropriate best practice adopted. Pre-seed workshops will be expanded to include more teams and adapted to new product workshops for companies and for use in rural communities in the region. The Partnership will engage expert resources, such as First Principals of Cleveland, Ohio, to evaluate specialized technologies and determine market opportunities. High Tech Rochester will collaborate with

Pre-seed Workshops were developed in 2004 by a collaboration of Initiatives Consulting, GRE, HTR, Trillium, RIT, UR and the law firm of Jaeckle, Fleischmann. Five workshops have been held engaging 27 idea teams totaling about 150 people. From an inventor: *"I had no idea that starting a business had all these business aspects to it."* From an MBA student: *"Every MBA student should be required to participate. We are really starting companies here!"* From a coach: *"I'm going to invest in my team!"*

university tech transfer offices to market their assets and explore a similar effort with regional corporate research. Activities will involve a hybrid of volunteer experts (a Technology Advisory Council), funded assessments and staff effort. The intent is to define market benefits of specific technologies in business accessible terms and to interpret business needs to researchers to facilitate focused research. These activities, as well as company creation described below, will leverage the cadre of tech commercialization experts created by programs described in the entrepreneurship strategy. Students (MBAs, Technology Commercialization degree and immersion programs) will be teamed with proven mentors to accomplish much of this work. Establish a pilot of “pull model” commercialization by working with business to define needs, identify relevant potential for technological innovation and communicate to researchers to direct their research accordingly.

**Create More Companies.** Successful technology commercialization is demonstrated when new ventures are started and become economically viable. This process only succeeds when every

Lumetrics recently closed a \$1.3 million equity funding round from Rochester angels, Trillium VC, NYS and a NYC VC firm. The company began from an HTR orphan tech initiative in 2001 that identified a Kodak technology, assessed the market opportunity, and brought in an entrepreneurial founder. Located in an incubator, active participant in the Photonics cluster, and engaged with Infotonics, the firm now has six employees, revenue and tremendous growth potential.

element (intellectual property, capital, management, market demand, etc.) is effective. High Tech Rochester and Rochester Institute of Technology are engaged in efforts to create permanent structures for creating successful private sector companies from corporate orphan and university technologies. These efforts involve a hybrid of non-profit and for-profit roles. The Partnership will support a pilot of this approach and accomplish company formation activities comparable to the Lumetrics experience (see sidebar). This will include

commercialization analysis, business planning and prototype development.

**Establish Innovation Testbeds.** The work to transfer technology and create new businesses will focus on industry clusters. Company formation will typically occur at: Cornell Technology Farm (Life Sciences & Food Processing), Infotonics Technology Center (Photonics & Microsystems),

Rochester Biotech Center (Biotech), Lennox Tech Enterprise Center (Electronics, Info Tech), and Rochester Institute of Technology (Alternative & Renewable Energy). In addition, projects will build on proven entrepreneurship skills at the Eastman School of Music (including digital music), the University of Rochester School of Nursing (Healthcare) and Canandaigua Wine and Culinary Center (Agriculture & Food Processing).

**Establish a “New Initiatives Fund.”** This fund will stimulate new thinking among regional academic, government, non-profit and private sector organizations. Successful proposals will be aligned with Partnership goals and engage two or more organizations and/or integrate entrepreneurship or innovation with workforce development or lifelong learning. Projects will be awarded based on review by National Advisory Panel and DOL experts such as the U.S. Council on Competitiveness.

**Goal #3: Train and empower the region’s workforce to successfully compete in the changing global economy.**

An anticipated outcome is the development of a regional demand-driven workforce system based on innovative approaches that leverage partnerships linking school systems, colleges and universities and the private sector. This will increase regional training capacity resulting in increased

LEAN tools were used to study, train and improve productivity in blood collection at the American Red Cross (ARC) Blood Services, New York-Penn. Financial assistance from NYS-ESD, teamwork from ARC, and coordination from HTR were effective in reducing process time in collections by 40% and cycle times for processing of blood by 85%.

employment and higher wages. Partners will share best practices in serving emerging, current, and dislocated regional workers to maximize the project’s investment. The principal activities the partners will undertake to achieve these outcomes include:

**Customized training initiatives** to address the needs of employers in targeted industries, **skill upgrades through**

**industry recognized credentials** for workers, and **outreach to middle and high schools**

including teachers and students.

**Train Company Employees.** The partners will implement specific training initiatives primarily through the coordination of regional WIBs that link companies to training and manage funding. First, partners will expand LEAN training from traditional manufacturing to include emerging sectors such as health care and business support services. Training will leverage resources through NYS and company match and result in efficiency gains in new industry sectors. To respond to emerging training needs, the Partnership will administer a *Workforce Innovations Fund*, administered by WIBs, to address skill sets that become critical in the coming years.

**Upgrade Worker Skills.** The region is rich in higher education and individual institutions are actively connected to companies and have identified disconnects between the region's workforce and skills currently demanded by employers. The Partnership has strategically selected accredited certificate programs in science, technology, entrepreneurship and other areas that enable workers to acquire the skills required in the market. These programs will also be available as online learning experiences. Ongoing Partnership coordination will ensure that colleges develop new certificates for emerging industry needs. The partners propose to create a scholarship fund for employed individuals and a development fund for new programs.

**Engage Students and Teachers.** Middle and high school students and educators lack linkages to industry and are not informed of technological developments that will affect career paths. The partners will empower learners by updating curricula and lab facilities at the five regional Career and Technical Education centers to meet the workforce demands of emerging industry sectors. The partners will expand existing models to increase structured entrepreneurial and high tech work experience for students and teachers in growing industries. To fully engage students in these transformational activities, a communications campaign will raise the profile and "coolness" of entrepreneurship, innovation and technology careers.

#### **Goal #4: Build 21<sup>st</sup> Century Innovation Infrastructures.**

Anticipated outcomes include a Web-based, open-access centralized repository of regional data; proactive, widely accepted regional growth strategies using combined regional resources and eliminating duplication; innovative approaches to business retention, expansion and attraction; and engaged business leaders who understand, share and participate in the regional vision. The region is rich with community resources across multiple agencies. However, effectiveness has been hampered by multiple, sometimes duplicative, activities occurring in silos, without broad engagement across organizations. As the region transforms from a big-company driven economy into an innovation economy, economic development and community resources must work differently – using collaborative research to drive regional decision making; aligning resources across agencies on a project-by-project basis; and developing common goals and objectives. Principal activities to achieve these outcomes include: **Development of a Knowledge Clearinghouse; industry cluster-based coordination; proactive team-based economic development initiatives; and a private-sector incentive program** based on sound research and engaging all community leaders.

**Develop Knowledge Clearinghouse.** A web-based knowledge clearinghouse developed and maintained to systematically identify regional technology, innovation, economic development and workforce resources. The effort includes inventorying what exists, identifying gaps, monitoring regional and national trends, communicating best practices, and facilitating networking and one-on-one connections. It supports company surveys to increase response rates and yield valid data. This centralized regional data repository will be self-populating with partners updating their own content.

**Coordinate Industry Clusters.** Map community resources to cluster activity and new growth opportunities. Develop targeted clusters, which include: Optics & Imaging, Biotech & Life Sciences, Food & Agriculture, and Alternative Energy. Support cluster-based activities to provide matchmaking, collaboration, networking, identification of regional gaps and opportunities. Develop

“cluster connections” portals for matchmaking contract and external funding opportunities. Ensure that regional competencies that cross industry clusters, such as business services, precision manufacturing and trade associations, are fully integrated into cluster activities.

**Proactive, team-based economic development initiatives based on sound research and engaging all community leaders.** Prioritize economic development resources towards the most “at-risk” and “highest opportunity” companies using predictive analysis models. Create an economic development roundtable to devise outreach strategies, including mission trips outside the region, to secure the future of these companies. Use “community Rolodex” and relationships to achieve new business attraction strategies. Identify leading companies in growth sub-sectors of targeted industries, undertake in-depth research to map local assets to their growth plans, and engage community leaders to pursue high-level outreach to them.

**Private-Sector Incentive Program.** Engage local service providers to pool resources to create incentives for business retention and attraction. For example, realtors agree to waive fees, developers provide temporary or reduced rent locations, banks offer reduced fees for relocating workers.

## **Conclusion**

The Finger Lakes Partnership has designed an approach that will transform our region. Our team of civic, business, investor, academic, entrepreneurial and philanthropic leaders will be catalyzed by the funding and technical assistance of the WIRED initiative to propel the Finger Lakes region into the new economy. The integration of our strong regional resources will eliminate program redundancies and barriers to innovation, increase efficiency, leverage best practices, and forge interdisciplinary and regional collaboration. As the Finger Lakes Partnership becomes a reality, our collective efforts will transform workforce capabilities and the ability of our region to be innovative, entrepreneurial and fully competitive in a global economy. We will be a region that has transformed silos into pillars of strength by linking them together through proactive, goal-oriented collaboration.