

North Country

	Regional totals	% of total in region	Independent Sector state totals
No. of Independent Sector institutions	3		145
Degree Productivity ¹			
Bachelor & graduate degrees, Independent Sector	1,477	27%	127,073
Bachelor's in engineering	265	100%	3,082
Bachelor's in mathematics	39	43%	856
Bachelor's in physical sciences	29	35%	884
Economic Impact ²			
Employees	4,186		360,158
Economic impact (millions)	\$564		\$54,296
Payroll (millions)	\$208		\$19,576
Capital construction (millions)	\$22		\$1,637
Student/visitor spending (millions)	\$53		\$3,925
Quality Measures			
Doctoral/Research Universities (Carnegie Classification) ³	1		18
Proven Expertise			
Licensing income ⁴	\$85,433		\$347,706,425
Start-up companies formed ⁴	3		46
Licenses executed ⁴	15		172
Total active licenses ⁴	3		1,298
New patent applications ⁴	4		615
U.S. patents issued ⁴	5		304
National Science Foundation FY2009 ⁵	\$14,929,000		\$3,009,877,000
National Institutes of Health FY2009 ⁶	\$541,940		\$1,297,720,896

Sources:

1. New York State Education Department, Office of Research and Information Services. Degrees granted are public and Independent Sector, 2008-09.
2. Center for Governmental Research, January 2011.
3. The Carnegie Classification, <http://classifications.carnegiefoundation.org/>
4. Commission on Independent Colleges and Universities survey.
5. National Science Foundation, College and University R&D FY2009, data file.
6. National Institutes of Health, http://report.nih.gov/award/trends/State_Congressional/StateOverview.cfm

Independent Sector: Centers of Research, Innovation, and Economic Development North Country

Institution	Center	Description	Category
Clarkson University	Center for Advanced Materials Processing	Materials science.	Centers for Advanced Technology
Clarkson University	Syracuse Center of Excellence at Clarkson	Renewable energy.	Centers of Excellence
Clarkson University	Peyton Hall Incubator at Clarkson University	High technology incubator that serves as a bridge to Canada supporting a two-way flow of ideas, support, and products while supporting the economic development of Upstate NY.	Incubator
Clarkson University	The Shipley Center for Innovation at Clarkson University	The Shipley Center accelerates the commercialization of innovations at Clarkson University through the support and education of faculty and students in preparation for the entrepreneurial workplace.	Proof of Concept Center

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Below are just a few examples of how independent (private, not-for-profit) colleges and universities nurture startup companies, provide valuable expertise to private sector businesses, and harness intellectual property that helps to generate new products and ideas that create economic vitality throughout the State.

Licensees

ZeroPoint Clean Tech, which has developed a highly efficient biomass gasification process capable of converting many forms of biomass into renewable synthesis gas, electricity, or liquid fuels, is building prototype equipment in Potsdam's Commerce Park location. The company's renewable energy and water treatment equipment was constructed at "bench scale" in a **Clarkson University** laboratory. The technology was invented by ZeroPoint and Clarkson Senior Research Scientist Philip D. Leveson, who serves as chief scientist for ZeroPoint.

Start-Up Companies

Ceramic Matrix Composites, LLC, (CMC), company in Massena, which is utilizing technology developed by Professor SV Babu and his colleagues at **Clarkson University's Center for Advanced Materials Processing (CAMP)**, is developing various state of the art ceramic materials and advanced manufacturing processes to manufacture wear parts with superior properties at lower cost for the cutting, oil and gas, CNC market and automotive industries. In automotive applications, ceramic rocker arm and connecting rods can operate at higher temperatures compared to aluminum, steel or alloys making the whole system more fuel efficient with less emissions.

Composite Systems & Technologies, LLC, a company in Massena which is utilizing technology developed by **CAMP Professor Richard Partch**, is developing low-cost manufacturing lightweight, high performance carbon fiber composites to replace metal in automotive applications and wood in structural applications. These materials can be utilized in numerous structural applications such as vehicle frames, bridge beams, wind turbine blades and sporting goods.

Personal Renewable Energy LLC is a startup founded by Dr. Ken Visser, a **Clarkson University** professor and Trevor Mullins, a **Clarkson University** student. The company has created a technology platform that will educate and guide the public in the choice, purchase, and implementation of renewable energy systems. The company was formed

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through the support of the **Clarkson University** Shipley Center for Innovation and the prototype will be launched in the summer of 2011.

Healthcheck Inc is a student startup founded by **Clarkson University** senior Matthew Hatfield in conjunction with 3 partners, 2 of which are at Stanford University. The company is based on an automated surgical checklist that aims to reduce the occurrence of infections caused by surgical procedures. The company was formed through the support of the **Clarkson University** Shipley Center for Innovation and is currently refining the software and delivery platform for pilot trials in hospitals.

Nanoscience Solutions Inc is a startup founded by Dr. Igor Sokolov from **Clarkson University** and is based on his research in new and economical absorbent silica materials for gas and water purification.

Allergy Finder LLC is a startup founded by Dr. Ian Suni at **Clarkson University** based on his research in the detection of food allergens. The technology is incorporated into a device that detects the presence of allergens in food and aims to prevent severe allergic reactions caused by consumption or exposure.

Cosner Co-Piloting is a startup founded in 2011 by **Clarkson University** student Angela Cosner and is focused on an innovative approach to the sport of Rally Racing. Angela has developed a business model to elevate the profession of Rally Co-Driving by applying her education in mechanical engineering to the sport. The company has already signed 2 sponsorship contracts and will compete in the full national and Canadian schedule for the remainder of the 2011 season. The business was formed through support of the **Clarkson University** Shipley Center for Innovation.

Blue Sphere Industries LLC is a startup founded by 3 **Clarkson University** students based on their design for a controlled environment high-rise farm. The students represent a cross-disciplinary team of mechanical engineering, environmental engineering, and an MBA and are at the pilot phase signing a contract with a local customer for the purchase of their complete current capacity level. The team recently placed 2nd in the Albany Business Plan competition and will be located in the Peyton Hall Incubator. The business was formed through support of the **Clarkson University** Shipley Center for Innovation.

Crafty Creations LLC is a startup founded by a **Clarkson University** staff member that is based on a patented design for a crafting tool employed in scrapbooking. The technology has been refined through work with **Clarkson University** students and the business was formally organized and built with the support of the **Clarkson University** Shipley Center for Innovation.

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East Coast Ski LLC is a startup founded by 6 **Clarkson University** engineering students and is based on a design for an all-purpose ski specifically molded for the environment of the east coast. The students represent the full spectrum of the engineering discipline including the fields of civil, environmental, mechanical, and aeronautical. The team recently won the New York Creative Core Student Business Plan Competition and will be located in the Peyton Hall Incubator. The business was formed through support of the **Clarkson University** Shipley Center for Innovation.

Start-Up Companies/Licensees

NexID is a startup company focused on biometrics and based on the research of Dr. Stephanie Schuckers at **Clarkson University** in the development of liveness confirmation for fingerprint systems to reduce vulnerability to spoofing. The company is beyond pilot phase and will be located in the new Peyton Hall Incubator.

FLY Technologies LLC is a student startup founded by Mark Huber, an engineering student at **Clarkson University**. The company was founded to commercialize the design of an innovative electric bike through the support of the Institute for a Sustainable Environment and the **Clarkson University** Shipley Center for Innovation. The technology is patent pending and the project is currently in the pilot phase with a working prototype.

Neuroredox Inc is a startup founded in collaboration of faculty from St. Lawrence University, Dartmouth College, and based in the research of Dr. Silvana Andreescu from **Clarkson University**. The technology is an innovative delivery system of a drug for patients suffering a stroke and aims to reduce or eliminate the long-term effects caused by lack of oxygen to the brain. The technology is patented by **Clarkson University** and the company will be located in the Peyton Hall Incubator.

Pharmacoustics LLC is a startup founded and based on the research of Dr. Cetin Cetinkaya at **Clarkson University**. The technology provides a method for acoustically testing the composition of drug tablets for pharmaceutical companies and is in the pilot phase. The company was formed through the support of the **Clarkson University** Shipley Center for Innovation and will be based in the Peyton Hall Incubator.

Timbre LLC is a startup formed by Dr. Kerop Janoyan from **Clarkson University** to commercialize a method of acoustically measuring the structural integrity of large infrastructure including bridges and wind turbines. The technology employs the use of

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sensors located around the structure and software that interprets the reading of variations in frequency waves.

Verdant AirTech LLC is a startup founded by Dr. John McLaughlin, a professor at **Clarkson University**, and Xinli Jia, a post-doc at **Clarkson University**. The company is based on the design of an air filtering technology employing GEF technology and has been developed in collaboration with Cameron Industries in Horseheads, NY. The technology can deliver the efficiency of current HEPA filters with the benefits of 50% less energy usage and an expected lifespan of 20 years.

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