



Ultracold and cold atoms simplified.

1600 Range Street, Suite 103
Boulder, CO 80301
www.coldquanta.com



Fast Facts

Founders:	Dana Z. Anderson, Theodor W. Hänsch, Rainer Kunz, Jakob Reichel
Date Founded:	2007
Employees:	18
Headquarters:	Boulder, CO
Revenue:	N/A
University:	University of Colorado Boulder
Federal Funding Agency:	Department of Defense (Army Research Office, DARPA)
Initial Research Funding:	\$17M

ColdQuanta focuses on the development of BEC (Bose-Einstein Condensate) and cold atom generating devices and systems. Since its founding in 2007, ColdQuanta has been instrumental in transitioning the science of ultracold matter into a viable commercial applied technology. ColdQuanta is the world's first commercial company to sell complete ultracold matter systems. The company seeks to enable engineers and scientists around the globe by lowering the barrier to ultracold matter research, simplifying ultracold matter production, and bringing to the research, educational, and industrial communities the tools that make possible the development of ultracold matter systems for practical applications.

The Story Behind the Company

ColdQuanta™ grew out of decades of research by University of Colorado professor Dana Anderson and his work at JILA, a collaboration of the University of Colorado Boulder and the National Institute of Standards and Technology, to make ultracold matter systems simpler, more compact, and more practical through an applied research development of atom chip technology. Atom chips provide a means to substantially simplify the production of ultracold matter and provide a standardized pathway for developing practical ultracold matter based sensors.

Initial funding of \$5M from the Army Research Office within a Multidisciplinary University Research Initiative (MURI) supported a collaboration of 10 researchers in fundamental atomic, molecular and optical science, applied physics, and engineering, with the objective of transitioning the research accomplishments of fundamental science in ultracold matter towards a more applied direction. Successful outcomes from that collaboration, including the first demonstration of an atom chip based matter wave interferometer, led to subsequent DARPA funding of a program led by Anderson to specifically develop cold and ultracold matter enabling technology. The six-year \$12M program led to a large suite of technological developments that served as the basis for ColdQuanta.



Software Defined Network Services

285 Century Place, Suite 150
Louisville, CO 80027
<http://linratesystems.com/>



Fast Facts

Founders:	John Giacomoni Manish Vachharajani
Date Founded:	2008
Date Acquired:	2013
Acquiring Company:	F5 Networks, Inc.
Employees:	N/A
Headquarters:	Louisville, CO
Revenue:	N/A
University:	University of Colorado Boulder
Federal Funding Agency:	Department of Defense (U.S. Army Research Office)
Initial Research Funding:	\$100,000

LineRate Systems provides “Software Defined Networking” (SDN) technology to online companies and web hosting companies to scale their network services to support growing web traffic. The LineRate® Proxy product provides intelligent policy-based traffic steering that optimizes HTTP traffic flows between the necessary services. The LineRate® Proxy is a software product that has performance comparable to specialized hardware systems. Custom-tailored traffic management policies can be rapidly created using LineRate’s unique data path scripting technology.

The Story Behind the Company

Company founders John Giacomoni and Manish Vachharajani developed the core technologies behind LineRate while at the University of Colorado Boulder. The LineRate® Operating System (LROS) is based on Giacomoni’s doctoral research in high-performance networking systems and design. Giacomoni and Vachharajani’s work in hardware optimization led to their breakthrough high-rate software processing technology for network acceleration. A grant from the U.S. Army Research Office funded a wide array of projects at the University, including some of the Giacomoni’s time.



8310 South Valley Highway, Suite 3000
Englewood, CO 80112
www.fluensee.com/



Fast Facts

Founders:	Ouri Wolfson
Date Founded:	2001
Date Acquired:	2006
Acquiring Company:	Fluensee, Inc.
Employees:	N/A
Headquarters:	Englewood, CO
Revenue:	N/A
University:	University of Illinois at Chicago
Federal Funding Agency:	Department of Defense (U.S. Army Research Laboratory), National Science Foundation
Initial Research Funding:	\$1M

Mobitrac is the market-leading provider of next-generation Transportation Execution Systems (TES), making it possible to manage fleet profitability in real-time. The modular services developed and commercialized by Mobitrac are used by less-than-truckload (LTL), private fleet, pickup and deliver (P&D), specialty and service fleet organizations. The software combines functions such as pinpointing exact locations of vehicles, traveling employees, or specific goods and resources, along with commercially or strategically useful information such as tracking histories, work schedules and calendars. The software hopes to improve the efficient use of resources and personnel.

The Story Behind the Company

While at the University of Illinois at Chicago (UIC), Professor Ouri Wolfson observed that there were numerous industries that dealt with management of location information, such as air traffic control, dispatch applications, fleet management and, increasingly, location-based services in which hand-held wireless devices are used to help locate specific places. All these applications had a common core - they all dealt with location of moving or mobile devices. This gave Wolfson the idea of developing software to capture and extract the commonalities of these diverse applications and produce a platform upon which future applications could be developed faster. The resulting software package became the basis for Mobitrac. Initial research and development at UIC was funded by grants totaling approximately \$1 million from the National Science Foundation and the Army Research Laboratories.

In 2006, Mobitrac was acquired by RFID-enabled asset management provider, Fluensee, Inc.



10955 Westmoor, Suite 400
Westminster, CO 80021
www.xerionbattery.com



Fast Facts

Founders:	Paul Braun, John Busbee, Christopher Kolb, Robert Zavala
Date Founded:	2010
Employees:	11
Headquarters:	Westminster, CO
Revenue:	N/A
University:	University of Illinois at Urbana-Champaign
Federal Funding Agency:	Department of Defense (Army Research Laboratory and Army Research Office), Department of Energy
Initial Research Funding:	\$11M

Xerion Battery was founded to develop and commercialize next generation ultra-high power, high energy lithium ion batteries. The company's unique technology called StructurePore dramatically reduces both battery charge and discharge times compared to rechargeable batteries on the market today. Batteries using StructurePore are able to fully charge cell phones and other electronics in less than a minute. This is accomplished through increased power density, increased electrical capacity and improved battery safety.

The Story Behind the Company

StructurePore was developed by Paul Braun, professor of materials science and engineering at the University of Illinois at Urbana-Champaign, and his research team. After almost a decade of work, Braun and his team solidified the technology in late 2010.

Group members performed research in the fields of materials chemistry, polymers, biomaterials, organic and inorganic self-assembly, electronic materials and photonics. The team developed a three-dimensional nanostructure for battery cathodes that allows for dramatically faster charging and discharging without sacrificing energy storage capacity. This discovery allows for storing a large amount of energy that can be released very quickly. Braun's research group received funding from the Department of Defense and the Department of Energy.