LIQUIDLIGHT

11 Deer Park Drive, Suite 121
Monmouth Junction, NJ 08852
www.llchemical.com

Fast Facts

Founders:	Andrew Bocarsly, Emily Cole, Narayanappa Sivasankar, Kyle Teamey
Date Founded:	2009
Employees:	26
Headquarters:	Monmouth Junction, NJ
Revenue:	N/A
University:	Princeton University
Federal Funding Agency:	Department of Defense (Air Force Office of Scientific Research), Department of Energy, National Science Foundation
Initial Research Funding:	$2M

Liquid Light helps chemical companies turn their industrial waste into a profitable source of revenue. The company has developed technology to produce industrial chemicals and fuels from carbon dioxide, one of the lowest cost and most abundant carbon sources. A greenhouse gas and pollutant, carbon dioxide can be captured at the point of release and used as the starting material for Liquid Light's technology. The company has developed a novel electrochemical technology including an innovative set of electrocatalysts for converting carbon dioxide into industrial chemicals such as glycols, alcohols, and carboxylic acids.

The Story Behind the Company

Liquid Light was founded based on the groundbreaking discoveries of Andrew Bocarsly, a professor of chemistry at Princeton University and a leading electrochemistry researcher and innovator. In the mid-1990s, Bocarsly and a graduate student began to study methods for converting carbon dioxide to methanol. The initial studies involved an electrode and an inexpensive catalyst to drive the reaction. The project picked up speed in the mid-2000s when graduate student Emily Cole revived the project and began to explore ways to optimize the reaction. The team discovered their technology could produce compounds containing carbon-carbon bonds, allowing for a range of commercially valuable products to be produced.

Upon graduation, Cole and Bocarsly cofounded Liquid Light with Kyle Teamey, an engineer and entrepreneur, and a colleague, Narayanappa Sivasankar. The company scientists have since explored ways to optimize the technology to create new products at higher yields. Liquid Light's backers include VantagePoint Capital Partners, Redpoint Ventures, Chrysalix Energy Venture Capital, Osage University Partners, and BP Ventures.

Early funding for their work was provided by the National Science Foundation, to support the development of the materials chemistry and electrochemistry of cyanometalate compounds. The Department of Energy (Basic Energy Sciences) also provided funding specifically for the photoelectrochemical conversion of CO_2 to methanol and related compounds. Liquid Light received a Small Business Technology Transfer grant with Princeton University as the collaborator from the Air Force Office of Scientific Research.

TAG OPTICS Inc.

REVOLUTIONIZING ADAPTIVE OPTICS THROUGH ACOUSTICS

P.O. Box 1572
Princeton, NJ 08542
www.tag-optics.com

Fast Facts

Founders:	Craig Arnold, Christian Theriault
Date Founded:	2011
Employees:	3
Headquarters:	Princeton, NJ
Revenue:	N/A
University:	Princeton University
Federal Funding Agency:	Department of Defense (Air Force Office of Scientific Research)
Initial Research Funding:	$300,000

TAG Optics Inc. develops and produces an optical lens that focuses in response to sound waves. The tunable acoustic gradient (TAG) lens can focus in less than a microsecond and can be used in combination with many devices.

The TAG Lens is based on a novel mechanism of action that involves using sound waves to create small density changes in fluids. These density variations in turn change the index of refraction of light as it travels through the device.

The Story Behind the Company

The inspiration for the TAG lens came from basic research conducted in the mid-2000s in the laboratory of Craig Arnold, associate professor in the department of mechanical and aerospace engineering at Princeton University. Arnold developed the concept for the sound-controlled lens with the assistance of undergraduate Adam Hopkins, graduate student Euan McLeod and postdoctoral researcher Alexandre Mermillod-Blondin.

In 2010, Arnold was joined by Christian Theriault, a former student, and the two formed TAG Optics in 2011 with the goal of commercializing the lens.

The initial research on the TAG technology was begun at Princeton University with a $300,000 grant from the Air Force Office of Sponsored Research (AFOSR) under the management of Dr. Howard Schlossberg. This starting grant was crucial in supporting the salary of the graduate student researcher along with the necessary supplies and other research related expenses. This original funding enabled the team to establish a strong scientific foundation for the TAG technology and provided the necessary proof-of-principle to encourage subsequent financial support for the development and eventual founding of the company.

Site-Specific Delivery. Global Impact.

1 Deer Park Drive, Suite G
Monmouth Junction, NJ 08852
www.TYRX.com
www.HeartDeviceInfection.com

Fast Facts

Founders:	Arikha Moses
Date Founded:	1998
Employees:	50
Headquarters:	Monmouth Junction, NJ
Revenue:	N/A
University:	Rutgers University
Federal Funding Agency:	National Institutes of Health
Initial Research Funding:	$738,000

Since its inception in 1998, TYRX scientists, engineers and marketers have focused on a singular goal — creating unique, cost-effective solutions that address surgical-site infections (SSIs) and inflammatory tissue-reaction associated with implanted medical devices.

TYRX has gained market approval for a number of products, and is developing additional product franchises through the application of proprietary technologies in general, cardiovascular, neurological, cosmetic, and orthopedic surgery. The company is targeting the reduction of infection and scar development, common morbidities associated with all medical device implants.

The Story Behind the Company

TYRX, Inc. was founded upon unique biodegradable polymer technology invented by a team of scientists at Rutgers University led by professor of chemistry Dr. Joachim Kohn. The NIH funded this initial polymer research in the Kohn laboratory at Rutgers. TYRX acquired a license from Rutgers to a series of patents that describe the synthesis and uses of the class of unique biodegradable polymers that Dr. Kohn calls “tyrosine-derived polyarylates.”