

Corporate Overview

As the established market leader of Atomic Layer Deposition (ALD) solutions, Cambridge NanoTech has over 200 ALD systems installed in research and manufacturing settings worldwide. Cambridge NanoTech ALD systems are the platform of choice for flexible research and high performance production. With unparalleled support, Cambridge NanoTech experts collaborate with customers to apply thin film techniques to unique coating challenges, acting as a catalyst for new applications worldwide.

Founded in 2003 by Dr. Jill S. Becker, Cambridge NanoTech grew directly out of one of the foremost ALD research groups in the world; the Gordon Lab at Harvard University. Cambridge NanoTech is driven by a desire to bring greater awareness of ALD to the marketplace and to innovate new ways to use this science to help others succeed in their research and fabrication efforts. The company's mission is to advance and simplify the science of Atomic Layer Deposition by delivering the best ALD systems possible and fostering the growth and sharing of ALD knowledge and research.

CORPORATE FACTS

Management Team

- Jill Becker, Ph.D, Founder & CEO
- Ray Ritter, Chief Operating Officer
- Ganesh Sundaram, Ph.D, Vice President of Technology
- Roger Coutu, Vice President of Engineering

Employees: 30

Investors: Privately held.

Headquarter Locations:

Corporate Office
Cambridge NanoTech
68 Rogers Street
Cambridge, MA 02142
617.674.8800
www.cambridgenanotech.com

European Office
Cambridge NanoTech Europe
Suite 319 Eagle Tower
Cheltenham Spa
GL50 1TA UK

PRODUCTS/SERVICES

- Savannah™ (2003): Compact, inexpensive system for research applications.
- Phoenix™ (2008): For production ALD needs; capable of batching large number of substrates at a time.
- Fiji™ (2009): A high-vacuum ALD system capable of both thermal and plasma-enhanced deposition.
- Tahiti™ (2009): A high volume production ALD system for large area deposition.
- Deposition Services: Coatings for a variety of materials; usual thickness of ALD coatings is below 1 μm.
- Consulting Services: Cambridge NanoTech's ALD experts collaborate with customers to find solutions to challenges in

ALD. We offer consulting in chemistry (precursor synthesis, nanotechnology, reactor design), physics (semiconductors, quantum devices, spintronics, magnetism), electrical engineering (CAD-CAM, electronics, LabVIEW™, finite element simulations, device processing) and materials science (materials recommendations, manufacturing, production).

RECOGNITION

It's a privilege for the Cambridge NanoTech team to be acknowledged and recognized for its fast growth and contribution to the scientific community. Atomic Layer Deposition is an important nanotechnology that's just beginning to make strides in the mainstream marketplace. We look forward to continued growth and success in the coming years.

In May 2010, Founder & CEO of Cambridge NanoTech, Dr. Jill Becker was named a Finalist in Ernst & Young's "Entrepreneur of the Year" awards for her excellence in vision, leadership and achievement.

In 2009 and 2010, Cambridge NanoTech was named a "Fastest Growing Private Company" by the Boston Business Journal, ranking 11th and 6th respectively out of the many companies that were recognized.

In 2009, Dr. Becker was recognized as a "Woman to Watch" by the Mass High Tech Journal and Cambridge NanoTech received a Circle of Excellence Award from the Smaller Business Association of New England as well as earned a place on the Inc5000 list of Fastest Growing Companies as #707.

ALD APPLICATIONS

Cambridge NanoTech provides turnkey ALD products for a large number of markets and applications. More and more industries are taking advantage of the unique 100% conformality in and around 3D objects and the ease of large batch manufacturing while maintaining coating uniformity, reproducibility, strong adhesion, and low stress.

Optical

Antireflection
Electroluminescence
Encapsulation barriers
Integrated optics
OLED passivation
Optical filters
Photonic crystals
Transparent conductors

Nanostructures

AFM tips
Around particles
Inside pores
Nanotubes

Electronics

Diffusion barriers
DRAM
Gate dielectrics
Gate electrodes
Magnetic heads
MEMs
Metal interconnects
Multilayer-capacitors
RFID

Energy

Batteries
Catalysis
Fuel cells
Solar cells

Biomedical

Antibacterial
Biocompatible
DNA sequencing
Drug delivery
Implantable devices

Other applications

Anti-corrosion
Anti-stiction
Chemical
Etch resistance
Internal tube liners
Magnetic
Roll to roll

INNOVATIONS

Cambridge NanoTech is dedicated to furthering the science of ALD and making it accessible to a wider range of researchers and technologists. With the advent of the Savannah in 2004, Cambridge NanoTech is responsible for identifying and opening up an untapped marketplace for ALD technology. In the following years, the company continued to grow aggressively by launching additional ALD research systems and releasing two ALD manufacturing systems in 2008 and 2009. Additionally, Cambridge NanoTech's innovations such as Exposure Mode™ and the ALD Shield™ have contributed to the overall capabilities of ALD.

Because of strong roots in ALD research, Cambridge NanoTech enjoys exceptional access to novel ALD applications and many great opportunities to nurture these applications to maturity. The successful transition from serving academic customers to manufacturing customers has been in response to specific market needs and the product of working closely with industry partners, research collaborators, and key customers. Currently, Cambridge NanoTech is looking forward to releasing new ALD products such as FAST ALD and roll-to-roll systems. These achievements and our rapid growth validate Cambridge NanoTech's commercial and technical strategies, which are based on three core competencies:

- Simplified, cost-effective products with a small footprint and reduced chemical consumption
- Diversification of products and applications, from laboratory research to high-volume manufacturing
- Contributing to the scientific ALD community and developing internal ALD expertise

ATOMIC LAYER DEPOSITION MARKET BACKGROUND

Atomic Layer Deposition (ALD) offers precise control of depositions down to the atomic scale. It is used to deposit thin films with special properties. The principle of ALD is based on sequential pulsing of two chemical precursor vapors, which form about one atomic layer during each sequence. This generates pinhole free coatings that are extremely uniform in thickness, even deep inside pores, trenches, and cavities. A wide variety of thin films can be deposited using gas, liquid, or solid precursors. Applications include semi & nanoelectronics, optical, MEMS, wear resistant applications, nanostructures, chemical, and others.

Cambridge
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Simply ALD

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