



Q&A with Michael Trotter, CEO of Arradiance, LLC enabling greater Safety for Batteries and Electronic Devices with their Atomic Layer Deposition Nanofilm Materials



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Interview conducted by:
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CEOCFO: *Mr. Trotter, the tagline on the Arradiance LLC[®] site is 'Molecular Innovation.' What is involved?*

Mr. Trotter: We are experts in Atomic Layer Deposition (ALD) and we enable a multitude of technologies, from High Energy Physics to bio technologies. Our technologies work with high aspect ratio and high surface area substrates to either provide a barrier type of thin film or a functionalized film, with different electrical properties.

CEOCFO: *What are you working on now?*

Mr. Trotter: We provide thin film coating that is not possible with traditional chemical vapor deposition or physical vapor deposition. It provides a uniform, pinhole free coating that is required for devices, for example, batteries. You have heard of Lithium Ion batteries catching on fire in mobile phones and electronics. ALD encapsulates the Lithium, improves the cycle performance and makes the battery safe.

CEOCFO: *What was the genesis of your process?*

Mr. Trotter: The Company was founded in 2003. We were initially going after a parallel direct write eBeam technology, for semiconductor lithography. After about five years, and the development of a successful prototype, we understood that it was going to take another significant round of investment to go after that technology and a number of the investors backed out. However, during that process we developed in house capabilities for Atomic Layer Deposition to resolve one of the technical challenges that we had faced. Through that we ended up developing the equipment to produce the thin film coating that was required. Once we realized we were not going to be able to go after the lithography solution we started focusing on providing coatings and equipment to the University research and development market.

CEOCFO: *Are the industries that should understand Arradiance, aware of what you do?*

Mr. Trotter: I would not say all industries. We have solid equipment installed base at this point and good brand recognition in the market. That said, ALD is a niche market. Many of our customers may not be necessarily focused on Atomic Layer Deposition, but it is an enabler for the research that they are focused on; batteries being one example. Atomic Layer Deposition is not necessarily their focus, but it is a thin film coating that is required for them to move forward in their research.

CEOCFO: *Do you have a set line of products? Do you customize depending on what a client wants?*

Mr. Trotter: Our product family is branded as GEMstar. We are currently on the GEMstar XT series today, which is the second generation. I will call it somewhat of a Swiss Army knife. It is configurable to meet a particular researcher's need,