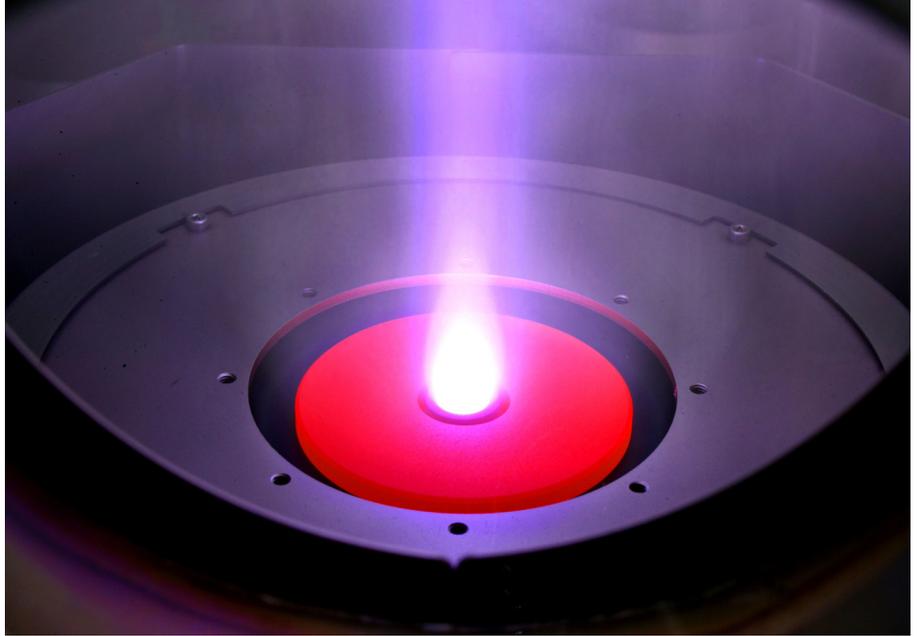


Optonetic:

A Niche in Custom Coatings

Mark Oberdzinski



Credit

A small company in Orlando's optics hub takes advantage of local support and cutting-edge technology to provide customized thin-film coatings for a large range of customers.

Several decades ago, few people could have foreseen that Central Florida would become the photonics hotbed of the southeastern United States that it is today. But thanks to the presence of industry-leading optics companies and a university with a well-respected optics center (CREOL at the University of Central Florida), today the region is a perfect fit for an up-and-coming thin-film coating firm called Optonetic.

Optonetic was started during the dot-com bust of the early 2000s, when many companies were closing their doors instead of opening new ones. Its founders came from an optics manufacturing background and were accustomed to working in a setting in which outside vendors provided coatings. They found that, as customer requests for coatings became increasingly complex and challenging, fewer vendors were able to provide adequate designs and processes.

At that point, the vision for Optonetic became very clear: The industry needed a company that would concentrate on improving and enhancing the quality of standard thin-films while targeting the custom-coating market segment as well. After spending time gaining education and industry experiences in New York, Colorado and Florida, the entrepreneurs made the decision to permanently set up shop in the Sunshine State. The nearby



URL: www.optonetic.com

Headquarters: Orlando, Fla., U.S.A.

Products: Antireflection coatings, high reflectors, mirrors, beamsplitters, polarization coatings, specialty coatings, infrared coatings

Founded: 2001

President/CEO: Jun Cha

Number of employees: 10

presence of the University of Central Florida, NASA and local military and defense contractors topped the list of reasons for the move to Orlando.

Small but nimble

The team at Optonetic is not large in size. In fact, it barely cracks the double digits. However, the small staff has more than 80 years of experience combined in optics, photonics and coatings. All of the

steps of the coating process are performed in-house at the Orlando facility. The company found that keeping its staff small allowed them to combine lean production processes with lower overhead and very competitive prices for their customer base. From the cleaning and handling of the optics through deposition and spectral analysis, Optonetic is a one-stop-shop for thin-film coatings.

Optonetic has one of the only two Cold Plasma Assist electron beam deposition chambers that exist in the world and the only one that is used in a production capacity. They acquired the chamber from a vendor when the technology and system became commercially available; Optonetic wanted to be the first to offer the process. Cold Plasma Assist technology was developed to produce assisted coatings at temperatures below 100° C—far less than that of standard ion or plasma assist. The process is ideal for polymer substrate materials, such as plastics, with low-temperature thresholds. Cold Plasma Assist also produces higher packing density, stronger adhesion and high abrasion resistance while reducing overall stress to the substrate during deposition.

The electron beam (E-gun) chambers in Optonetic's lab also have high-density plasma and ion-assist capabilities that offer a wide array of coatings to their

customers. Most of their customers' needs fall in the high ultraviolet through near-infrared spectral ranges, but that is not the limit. Optonetic has provided coating designs and services from the difficulties of 193 nm up through 12 μm . It found its niche by taking on challenging targets and bands. A few of the company's top industries and customer bases include optics and laser manufacturers, polishers, military and defense contractors, and clients in the automotive and aerospace industries. The Optonetic catalog of coating offerings include antireflection, high reflectors, filters, mirrors, ultra-high LDT, beamsplitters, polarization coatings, telecom and infrared coatings.

Advice from Optonetic

If the founders of Optonetic were to provide advice to other up-and-coming companies in the photonics industry, it would be to realize that, in a highly technical segment, the market can change rapidly and unpredictably, and you must be prepared to move with it. Technology will advance as time goes on—this is an eventuality—but a company or individual should not be deterred if the perfect solution is not readily available or even developed yet.

Many companies change their focus, business strategy or even entire industries depending on the market and opportunities that arise. The founders of Optonetic saw a void in the coating vendor market and proceeded to start a company to fill it. Through that, they not only solved problems for themselves, but for others in the precision optics community—partners and competitors alike. The growth of the optics and photonics industry as a whole is a welcome benefit of an advancing business.

Looking forward

Optonetic prides itself on being an innovation-driven American company that is not afraid to take on custom coatings as well as the everyday standard runs from their customers. They look outside of the “cookie-cutter” designs when the



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opportunity arises, and they have the experience to balance those efforts with the day-to-day flow of business. They routinely provide no-cost witness sample coating runs and spectral analysis for customers when they are faced with challenging targets and spectral ranges. Designing and processing these sample coatings, as well as volume production, can be accomplished in a matter of days at Optonetic, whereas these tasks can often require multiple-week lead-times in other companies.

Optonetic will be adding an additional E-gun evaporation chamber in the first part of 2011 to give them increased capacity at the Orlando headquarters. Along with that, they plan to add more coating technicians and production shifts to allow for more volume coating runs as expansion continues. Optonetic has ambitious growth plans; they hope to double their annual

revenue over the next few years. They plan to achieve that goal by continuing to adopt coating technological advances, to increase their marketing efforts and industry exposure, and obviously to work hard for their customers.

The importance of local support

Optonetic would not be where it is today without the support of local, state and federal entities. As a member of the Florida Photonics Cluster that works closely with UCF's College of Optics and Photonics and CREOL (Center for Research and Education in Optics and Lasers), the company has access to other Florida companies in the photonics and optics industry as well as technological milestones coming out of the university. The Metro Orlando Economic Development Commission (MOEDC) helped the company to use assistance from the state of Florida through Workforce Central Florida to hire new employees during recent expansion as well as to train their technicians on advanced coating techniques. The MOEDC also introduced them to special programs for small business financing over the years.

The photonics industry is growing by leaps and bounds every year; Central Florida is here to give it a boost and to welcome in other young companies that use the benefits offered by the region. Optonetic is proud to be a piece of the puzzle and to share in the successes. ▲

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