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Thursday, Dec. 31, 2009

College Park company incubates new solutions in solar technology

Award-winning AccuStrata receives more stimulus funding for its work

by Lindsey Robbins | Staff Writer



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As the solar energy industry enters the new decade, a College Park company looks to revolutionize one of the emerging technologies.

AccuStrata, a member of the Technology Advancement Program at the University of Maryland, is developing a system for optical monitoring of the process used to manufacture thin-film solar panels, which are more flexible and less costly than their crystalline silicon alternates.

The company received a \$150,000 Phase One Department of Energy Small Business Innovation Research grant through the federal stimulus package this month, its third grant in six months.

Launched in 2003, with operations beginning in 2007, AccuStrata has six employees and has landed more than \$1 million in funding from various sources. The company was selected as the Maryland Incubator Company of the Year for 2008 and was a finalist for 2009.

"They're at the sweet spot for a lot of different things going on in the industry right now," said Dean Chang, director of the Ventures & Education programs at the university's Maryland Technology Enterprise Institute.

AccuStrata's technology allows manufacturers to spot problems that can occur in thin-film panel creation, in which layers of various materials are deposited onto the desired surface.

Currently, manufacturers can only test the panels' efficiency after they are made, forcing them to wait until the next batch to make any improvements. The lower quality panels are then discarded or sold as inferior. This process has resulted in thin-film panels having a 12 percent efficiency compared with the 22 percent of poly-silicon panels, said

Monique Hanis, spokeswoman for the Solar Energy Industries



RAPHAEL TALISMAN/THE GAZETTE-Star
AccuStrata COO Oscar von Bredow (left) and company founder, president and CTO George Atanasoff hold the system that monitors the development of thin-film solar panels at the company's office in College Park.

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"We hope this brings solar energy to parity with traditional energy," said Dr. George Atanasoff, president of AccuStrata, referring to the system's potential impact on the solar industry. Energy from thin film solar panels is expected to take up half of the total solar energy usage in 2013 when the industry will be worth \$70 billion, he said.

The U.S. solar energy industry was valued at \$2 billion in 2008, with the photovoltaic sector growing 81 percent, Hanis said. About 90 percent of today's solar cells are silicon, which forms panels by piecing cells together, Atanasoff said.

Since the thin-film process involves depositing the conductive materials itself, it can be used in places where hard panels cannot, lending itself to new designs, Hanis said. Thin-film technology appeared on the scene about four years ago and has been growing at a fast rate.

Atanasoff and Oscar von Bredow, COO of AccuStrata, were out of state earlier this month, checking the system they installed in August. They hope to begin selling their technology this year.

The company's seed funding came from private investors and through \$75,000 from the Maryland Technology Develop Corp. in 2008. TEDCO is one of the first sources for startup company grants since many are deemed risky investment ventures at the early stages.

"This is the kind of company TEDCO is assigned to assist. We're excited and hope to see similar types of companies going forward," said John Wasilisin, acting president of TEDCO.

He said AccuStrata's ability to procure grants shows TEDCO's insight into the company's potential is proving to be on point. AccuStrata also received a National Science Foundation grant for \$100,000 and an earlier Department of Energy grant this year.

Von Bredow and Atanasoff met while von Bredow was working on another startup company. Von Bredow was interested in Atanasoff's application to monitor the process of creating flat-panel displays. Atanasoff soon realized the greater interest was in thin-film panel technology and reversed his focus.

Their goal is to make AccuStrata's monitoring system completely automated within the next two to three years.

"We want people to be able to make corrections on the fly," von Bredow said.

Chang said AccuStrata and the university have engaged in a mutually beneficial relationship since the company's arrival in 2008 in which AccuStrata has access to the research campus while the university's faculty and peers have the chance to work on industry problems outside of academics. AccuStrata also remains one of the most active clients of the university's Maryland Intellectual Property Resource Center, which is located within the incubator and offers free legal counseling and patent application assistance to startup companies.

"It's more carrying on the tradition of the significant successes of companies in TAP," Chang said, referring to billion-dollar incubator graduates such as Digene, now part of Qiagen, and Martek Biosciences Corp. in Columbia.

8 A.M. — 12:30 P.M.

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