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## **AmberWave buys Aonex from Arrowhead**

Arrowhead Research Corp of Pasadena, CA, USA has sold its majority-owned subsidiary Aonex Technologies to AmberWave Systems of Salem, NH, USA. AmberWave will pay Aonex shareholders up to \$7.95m in earn-out payments, plus a running royalty on sales of solar products incorporating Aonex's technology.

Aonex was founded in 2004 by Arrowhead and professor Harry Atwater of the Pasadena-based California Institute of Technology (Caltech) to commercialize materials integration technology developed in Atwater's lab for high-efficiency solar cells. The firm later expanded its focus and product development efforts to address the LED and laser markets. Aonex's products (A-Sapph single-crystal sapphire and A-GaN single-crystal GaN, respectively, on polycrystalline AlN substrates) could enable the fabrication of higher-efficiency devices at lower cost and higher yields, the firm claims.

AmberWave, which was spun out from the Massachusetts Institute of Technology in 1998, undertakes research and development of advanced materials technologies, focused on methods for the integration of dissimilar semiconductor materials to enable high-performance devices at low manufacturing costs. The firm claims to have been first to develop sub-45nm and sub-25nm strained silicon FETs, and the first to demonstrate economically feasible wafer-scale strained silicon and the first strained silicon-on-insulator (SSOI) wafers free of silicon germanium. More recently, last August, together with the Rochester Institute of Technology, AmberWave was awarded a \$0.3m, three-year grant from the US National Science Foundation (NSF) to research the integration of compound semiconductor devices on silicon using its aspect ratio trapping (ART) technology. Previously, in March 2006, it formed a cooperative agreement with Purdue University to jointly develop technologies for the integration of semiconductor devices on III-V materials (e.g. for III-V MOSFETs).

Aonex's technology is expected to enhance AmberWave's existing technology portfolio and enable it to move into new, high-growth markets.

"AmberWave's technical capabilities and business expertise make it the perfect company to bring Aonex's products to market," says Aonex CEO and co-founder Sean Olson. "There is a shared vision of using materials integration to develop better, more cost-effective semiconductor devices," he adds.

"The strong synergies between Aonex and AmberWave made selling Aonex the right decision," says Arrowhead's CEO Chris Anzalone. "AmberWave is well positioned to scale Aonex's prototypes and customer traction into compelling businesses in the optoelectronic and solar markets."

As part of the acquisition, Atwater will continue to support development of the technology. AmberWave will also take over Aonex's Pasadena operations.